THE PALESTINE EXPLORATION FUND

NOTES AND NEWS.

Great interest was manifested in the series of lectures in connection with the Fund which was announced in the *Quarterly Statement* for April. The lectures, which were delivered in the months of May and June, were well attended, and in some instances room could not be found for all who desired admission. The following is a list of the subjects and lecturers:—

May 3*rd*.—Chairman: His Grace the Archbishop of Canterbury. Lecturer: Col. Sir Charles W. Wilson, K.C.B., K.C.M.G., F.R.S., D.C.L., LL.D., R.E. Subject: "Jerusalem."

May 10*th*.—Chairman: F. D. Mocatta, Esq. Lecturer: Major Conder D.C.L., LL.D., R.E. Subject: "The Future of Palestine."

May 17*th*.—Chairman: Sir Edmund A. H. Lechmere, Bart., M.P. Lecturer: Rev. Canon Tristram, LL.D., F.R.S. Subject: "Natural History of Palestine."

May 31*st*.—Chairman: James Glaisher, Esq., F.R.S. Lecturer: Walter Besant, Esq., M.A. Subject: "The General Work of the Society."

June 7*th*.—Chairman: Major-General Sir F. J. Goldsmid, C.B., K.C.S.I. Lecturer: Rev. W. Wright, D.D. Subject: "The Hittites up to Date."

June 21*st*.—Chairman: Walter Morrison, Esq., M.P. Lecturer: W. M. Flinders Petrie, Esq. Subject: "The Story of a 'Tell.'"

June 28*th*.—Chairman: James Glaisher, Esq., F.R.S. Lecturer: Rev. Canon Dalton, C.M.G. Subject: "The Modern Traveller in Palestine."

The Committee have resolved to publish these very interesting and important lectures both separately, and the whole series together in a small volume. They will probably be ready in October. The price of a single lecture will be, to subscribers to the Fund, 6*d*., and that of the volume, 2*s*. 6*d*. To the public the prices will be 1*s*. and 3*s*. 6*d*.

From Mr. F. J. Bliss the important intelligence has been received that at Tell el Hesy there has been found "a small fine stone about two inches square

closely covered on both sides with a fine cuneiform inscription." Casts, impressions in wax, and squeezes of this inscription have reached the office, and been placed in the hands of Professor Sayce, who, it will be remembered, predicted that in all probability cuneiform writings would be discovered on this site.

The following letter on this subject appeared in *The Times* of July 1st :—

"Sir,—I ask permission to place on record, in the columns of *The Times*, a note on a discovery recently made in the course of excavations conducted at a mound in Palestine named Tell el Hesy. The excavations were commenced two years ago by Dr. Flinders Petrie, and have been continued during the last six months by Mr. F. J. Bliss, of Beirût. The Tell has been identified by Major Conder and Dr. Flinders Petrie with the ancient city of Lachish, an identification which is now amply confirmed.

"Mr. Bliss has found among the *débris* a cuneiform tablet, together with certain Babylonian cylinders and imitations or forgeries of those manufactured in Egypt. A translation of the tablet has been made by the Rev. Professor Sayce ; it is as follows :—

"'[To] the Governor. [I] O, my father, prostrate myself at thy feet. Verily thou knowest that Baya (?) and Zimrida have received thy orders (?) and Dan-Hadad says to Zimrida, "O, my father, the city of Yarami sends to me, it has given me 3 *masar* and 3 . . . . and 3 falchions." Let the country of the King know that I stay; and it has acted against me, but till my death I remain. As for thy commands (?) which I have received, I cease hostilities, and have despatched Bel (?)-banilu, and Rabi-ilu-yi has sent his brother to this country to [strengthen me (?)]."

"The letter was written about the year 1400 B.C. It is in the same handwriting as those in the Tell el Amarna collection, which were sent to Egypt from the south of Palestine about the same time. It will be remembered that of this remarkable collection about 80 tablets were acquired by the British Museum, and double that number by the Berlin Museum. The forms of the characters are the same and the peculiarities of the grammar.

Now, here is a very remarkable coincidence. In the Tell el Amarna collection we learn that one Zimrida was governor of Lachish, where he was murdered by some of his own people, and the very first cuneiform tablet discovered at Tell el Hesy is a letter written to this very Zimrida.

"The city Yarami may be the Jarmuth of the Old Testament.

"'Even more interesting,' writes Professor Sayce, 'are the Babylonian cylinders and their imitations. They testify to the long and deep influence and authority of Babylon in Western Asia, and throw light on the prehistoric art of Phœnicia and Cyprus. The cylinders of native Babylonian manufacture belong to the period B.C. 2000-1500; the rest are copies made in the west. One of these is of Egyptian porcelain, and must have been manufactured in Egypt, in spite of its close imitation of a Babylonian original. Others are identical with the cylinders found in the prehistoric tombs of Cyprus and Syria, and so fix the date of the latter. On one of them are two centaurs arranged heraldically, the human faces being shaped like those of birds. European archæologists will be interested in learning that among the minor objects are two amber beads.'

"It must be remembered that the Babylonian language and the Babylonian characters were the common medium of communication between the natives of the East at this time. A cuneiform scribe was kept at Tell el Amarna, and

probably there was one at every important place in Palestine. The find is one which throws light upon many points of interest, as, for instance, the influence of Babylon, the authority of Egypt, and, as Professor Sayce points out, the prehistoric art of Phœnicia. I should like to add that it is now 15 years and more since Professor Sayce called our attention to the probability of finding the libraries and archives of the ancient cities in the Tells which he has unceasingly urged us to excavate.

"I remain, Sir, your obedient servant,

"JAMES GLAISHER,

"Chairman of the Executive Committee."

The work at Tell el Hesy has been closed for the season, and will, it is hoped, be resumed in October. A letter from Mr. Bliss will be found in the present number. His detailed report will follow. *Funds for the continuance of the work are greatly needed.*

Herr Schick reports that extraordinary interest is being shown by English tourists in the tomb at the foot of the "Skull Hill," which is supposed by some to be the tomb of our Lord. An English lady is said to have washed out the tomb, and spent the night in it, and Mr. Moody, the American revivalist, held a service on the top of the hill.

At page 205 will be found a note from Major Conder respecting the above tomb. He points out that it is no new discovery, but was described in the "Memoirs of the Survey of Western Palestine," which were published in 1884.

Our readers will be interested to learn that considerable progress is being made with the Akka-Damascus Railway, the route of which, after various expensive surveys, has now been definitely decided upon. The line chosen is practically that first suggested by Major Conder, R.E., several years ago. Beginning at the great fortress of Acre, the railway will run down the plain of Acre parallel with the sea, throwing out a branch to Haifa, at the northern foot of Mount Carmel, and thence to and across the plain of Esdraelon, passing near Nazareth to Shunem and Jezreel, and through the valley of Jezreel, skirting the slope of the hills, to the River Jordan, which will be crossed within sight of Bethshean. The Jordan here offers exceptional facilities for the erection of the railway bridge, consisting of two spans. Not only are the two opposite banks of the river formed of solid rock, but the centre of the river contains a large block of similar rock, from which each span of the bridge will be thrown to the east and west bank respectively. From the Jordan the railway will ascend the slope of the Jaulan Plateau, along the crests that close the eastern shores of the Sea of Galilee, this ascent constituting the only difficult portion of the line, but which the surveys made now show to be much easier of accomplishment than was originally anticipated. Reaching the plateau near El 'Al, an easy gradient will carry the line by Seil Nawa and Kesweh to Damascus. Passing through the finest plains of Western and Eastern Palestine the importance of the railway cannot be over-estimated. Its construction can

hardly fail to lead to important archæological discoveries, and the Committee hope to make arrangements for obtaining full information respecting these.

The Rev. Theodore E. Dowling, Honorary Secretary of the Fund at Jerusalem, reports the names of the Lecturers and their subjects in connection with "The Jerusalem Association of the Palestine Exploration Fund."

On March 8th the first of a course of five Lectures, in the Christ Church Lecture Room, was read by the Rev. A. H. Kelk, on behalf of Herr Baurath C. Schick, who was temporarily unwell. This Lecture proved to be an instalment of a series, entitled "The Story of the Buildings of Jerusalem." On March 15th, Mr. Frederick Jones Bliss spoke for an hour on "Present Explorations at Tell el Hesy." Mr. G. Robinson Lees, on March 22nd, selected as his subject, "The Temple Area" (with his own magic lantern illustrations). On March 29th, the Rev. James Edward Hanauer read a paper on "The 'Site of Calvary' Controversy," the closing Lecture being given by the American Consul, Dr. Selah Merrill, April 5th, on "Bashan, and its Giant Cities."

The collections at the close of the Lectures, on behalf of local expenses, realised in full £8 3*s.* 3*d.*

Mr. Dowling also writes :—

"In order to complete a set of *Quarterly Statements* from 1869–91 for the benefit of "The Jerusalem Association of the Palestine Exploration Fund," nine numbers are required. It is the intention of the Local Committee to bind the volumes and keep them in the Association Room for reference only. Will any member of the Palestine Exploration Fund, who can spare them, kindly present either one or all of the following numbers: Volume 1869, Nos. 2 and 3; Volume 1870, Nos. 6, 7, and 8; Volume 1871, April and July; Volume 1872, January and April. Rev. T. E. Dowling, Jerusalem, Syria, Hon. Sec."

Mr. Charles F. Kent, of Berlin University, thus writes of a visit to the excavations at Tell el Hesy :—

"During our spring vacation here at Berlin University it was the privilege of six of us (all American students at Berlin) to make an extended trip through the Holy Land. Unlike most Palestinian travellers we were free to go where we pleased, and among other interesting places our itinerary brought us to Tell el Hesy, the scene of the Fund's excavations.

"The reports of the work there are so full and clear that I cannot hope to add anything to your knowledge, but being deeply interested in Palestinian discovery, I take occasion to convey to you my impression of the valuable character of the work which the Fund is doing at Tell el Hesy.

"Our night's stay at the Tell gave us a taste of the utter loneliness of the life of an explorer on the dividing line between fertility and desert. There is, however, a fascination about the work which is indescribable, the possibility of a valuable find every moment, and the continual variety of little finds which are turning up. Then, too, if the excavations had added nothing more to our knowledge of ancient Hebrew and Amorite archæology than a clear conception

of the arrangement and appearance of a city of the plain, the outlay, in my opinion, would be amply repaid. At the same time I am convinced that there are treasures in Tell el Hesy still to be turned up. The undertaking to cut down such a large section of the Tell naturally calls for a large expenditure of time and money, perhaps, more than all, of patience on the part of the officers of the Fund, but I trust that none of the essentials will fail.

"I cannot but feel that more interest in the work of the Fund ought to be stirred up in America. I see some work is being done at Cambridge, Mass., but not so much in the West. I expect this coming year to begin work at Chicago University, under my old Yale Professor, Dr. W. R. Harper, and, as opportunity offers, I shall take great pleasure in interesting my friends there."

We regret to announce the death of a valued friend and supporter of the Society, the Rev. Greville J. Chester. In the "Guardian" of June 8th, Mr. Walter Besant thus writes of him:—"It is now nearly twenty-five years since I first made Greville Chester's acquaintance. He introduced himself to me as a friend and supporter of the Palestine Exploration Fund, and offered his assistance in the examination and classificatoin of the lamps and pottery just then sent home by Warren from his excavations at Jerusalem. Since that time he has constituted himself, in an informal way, a kind of curator of our collections, always spending some time over their arrangement every summer. He wrote a paper on the subject, which appeared in the "Recovery of Jerusalem" (1870), and has since contributed many notes to the journal of the Society on the coins, gems, glass, pottery, marbles, &c., found in Palestine by our expeditions. In fact, the very last service he rendered the Society was the arrangement of the museum in our new rooms at 24, Hanover-square, on our removal about a year ago. He was also an explorer of no mean order. On two different occasions he conducted expeditions for the Committee. One of these was a visit to the little-known Isle Ruad, the Phœnician Aradus. This was in 1875. I think that he was then the only living European who had landed on its shores. The examination which he made of this very ancient and interesting place was necessarily hurried and incomplete, but (*more suo*) he came away with a pocket full of coins. Perhaps a more valuable contribution to geographical and archæological science was his journey of 1880, when he visited and described the Biblical sites of Lower Egypt, and travelled from Sân to El Arish, and cleared up the difficulties about Lake Sirbonis. These journeys were also noteworthy in the fact that they cost the Society next to nothing. We gave Chester beforehand what he roughly estimated—it was very little, and he always returned some of the money. The Palestine Exploration Fund can ill afford to lose a friend so tried and true. Of his great personal qualities, his deep religion, his simplicity of life, his perfect honour it is needless to speak after the words of Dr. Gatty in the 'Guardian' of June 1st. I would, however, indicate one additional point. Chester, of gentle extraction, and one of a long line of gentlemen, readily accepted responsibility in the spirit of one born to leadership. He was in some ways what is called a gentleman of the old school. Not only leadership was his right by birth, but courage, truth, and honour were elementary necessities for such as possessed that right. There are not too many men like Greville Chester in this respect, either in the Church or out of it."

Mr. John Shelley, Hon. Sec. of the Fund, Plymouth, sends us a notice of a bronze bracelet, with a Greek inscription, which was found near Jerusalem, and is described in the "Revue Critique," of 6th June, 1892.

We are happy to state that M. Clermont-Ganneau is actively engaged on the letterpress which is to accompany the drawings of M. Lecomte, illustrating M. Ganneau's Archæological Mission, and that it is confidently hoped the volume will be published by the end of the present year.

The museum of the Fund, at 24, Hanover Square, is now open to subscribers between the hours of 10 a.m. and 5 p.m., except on Saturdays, when it closes at 2 p.m.

The Committee have to acknowledge with thanks the following donations to the library of the Fund :—

"Abraham, Joseph, and Moses in Egypt." By Rev. A. H. Kellogg, D.D. From the Author.

"Heerelycke ende geluckige Reyse na det Heyligh Lant en de Stadt van Jerusalem." By Jan Van der Linden. Antwerp, 1716. From Rev. G. H. Culshan.

The Committee will be glad to receive donations of Books to the Library of the Fund, which already contains many works of great value relating to Palestine and the Holy Land.

It may be well to mention that plans and photographs alluded to in the reports from Jerusalem and elsewhere cannot all be published, but all are preserved in the offices of the Fund, where they may be seen by subscribers.

The following gentlemen have kindly consented to act as Honorary Local Secretaries :—

The Rev. R. M. Willcox, Burley in Wharfedale, near Leeds.
The Rev. Robert E. Daubeny, Sneyd Clergy House, Burslem.
The Rev. C. Harris. M.A., Milton-next-Sittingbourne, Kent.
The Rev. W. Spear, M.A., M.D., 22, Ashford Road, Maidstone.

The price of the remaining copies of "Palestine under the Moslems" has been raised to 10*s.* each to subscribers to the fund, and 16*s.* to non-subscribers.

The first volume of the "Survey of Eastern Palestine," by Major Conder, has been issued to subscribers. It is accompanied by a map of the portion of country surveyed, special plans, and upwards of 350 drawings of ruins, tombs, dolmens, stone circles, inscriptions, &c. The edition is limited to 500. The first 250 subscribers pay seven guineas for the three volumes; subscribers to the "Survey of Western Palestine" are privileged to have the volumes for this sum. The price will be raised, after 250 names are

received, to twelve guineas. The Committee *are pledged never to let any copies be subscribed for under the sum of seven guineas.* Mr. A. P. Watt, 2, Paternoster Square, is the Sole Agent. The attention of intending subscribers is directed to the announcement after Maps and before Contents of this number.

Mr. H. Chichester Hart's "Fauna and Flora of Sinai, Petra, and the Wâdy 'Arabah" has been completed and sent out to subscribers.

The books now contained in the Society's publications comprise an amount of information on Palestine, and on the researches conducted in the country, which can be found in no other publications. It must never be forgotten that no single traveller, however well equipped by previous knowledge, can compete with a scientific body of explorers, instructed in the periods required, and provided with all the instruments necessary for carrying out their work. The books are the following (*the whole set* (1 *to* 13) *can be obtained by subscribers to the Fund by application to the Head Office only* (24, *Hanover Square, W.*), *for* £3 1*s.* 6*d., carriage paid to any part in the United Kingdom only*) :—

By Major Conder, R.E.—

(1) "Tent Work in Palestine."—A popular account of the Survey of Western Palestine, freely illustrated by drawings made by the author himself. This is not a dry record of the sepulchres, or a descriptive catalogue of ruins, springs, and valleys, but a continuous narrative full of observations upon the manners and customs of the people, the Biblical associations of the sites, the Holy City and its memories, and is based upon a six years' experience in the country itself. No other modern traveller has enjoyed the same advantages as Major Conder, or has used his opportunities to better purpose.

(2) "Heth and Moab."—Under this title Major Conder provides a narrative, as bright and as full of interest as "Tent Work," of the expedition for the *Survey of Eastern Palestine.* How the party began by a flying visit to North Syria, in order to discover the Holy City—Kadesh—of the children of Heth; how they fared across the Jordan, and what discoveries they made there, will be found in this volume.

(3) Major Conder's "Syrian Stone Lore."—This volume, the least known of Major Conder's works, is, perhaps, the most valuable. It attempts a task never before approached—the reconstruction of Palestine from its monuments. It shows what we should know of Syria if there were no Bible, and it illustrates the Bible from the monuments.

(4) Major Conder's "Altaic Inscriptions."—This book is an attempt to read the Hittite Inscriptions. The author has seen no reason to change his views since the publication of the work.

(5) Professor Hull's "Mount Seir."—This is a popular account of the Geological Expedition conducted by Professor Hull for the Committee of the Palestine Fund. The part which deals with the Valley of Arabah will be found entirely new and interesting.

(6) Herr Schumacher's "Across the Jordan."

(7) Herr Schumacher's "Jaulân."—These two books must be taken in continuation of Major Conder's works issued as instalments of the

"Survey of Eastern Palestine." They are full of drawings, sketches, and plans, and contain many valuable remarks upon manners and customs.

By Walter Besant, M.A.—

(8) "The Memoirs of Twenty-one Years' Work."—This work is a popular account of the researches conducted by the Society during the past twenty-one years of its existence. It will be found not only valuable in itself as an interesting work, but also as a book of reference, and especially useful in order to show what has been doing, and is still doing, by this Society.

(9) Herr Schumacher's "Kh. Fahil." The ancient Pella, the first retreat of the Christians; with map and illustrations.

By George Armstrong—

(10) Names and Places in the Old and New Testament and Apocrypha. This is an index to all the names and places mentioned in the Bible and New Testament, with full references and their modern identifications, as shown on the new map of Palestine.

(11) Besant and Palmer's "History of Jerusalem."—The "History of Jerusalem," which was originally published in 1871, and has long been completely out of print, covers a period and is compiled from materials not included in any other work, though some of the contents have been plundered by later works on the same subject. It begins with the siege by Titus and continues to the fourteenth century, including the Early Christian period, the Moslem invasion, the mediæval pilgrims, the Mohammedan pilgrims, the Crusades, the Latin Kingdom, the victorious career of Saladin, the Crusade of Children, and many other little-known episodes in the history of the city and the country.

(12) Northern 'Ajlûn "Within the Decapolis," by Herr Schumacher.

By Henry A. Harper—

(13) "The Bible and Modern Discoveries."—This work, written by a Member of the Executive Committee of the Palestine Exploration Fund, is an endeavour to present in a simple and popular, but yet a connected form, the Biblical results of twenty-two years' work of the Palestine Exploration Fund. The writer has also availed himself of the discoveries made by the American Expeditions and the Egyptian Exploration Fund, as well as discoveries of interest made by independent travellers.

The Bible story, from the call of Abraham to the Captivity, is taken, and details given of the light thrown by modern research on the sacred annals. Eastern customs and modes of thought are explained whenever the writer thought that they illustrated the text. This plain and simple method has never before been adopted in dealing with modern discovery.

To the Clergy and Sunday School Teachers, as well as to all those who love the Bible, the writer hopes this work will prove useful. He is personally acquainted with the land; nearly all the places spoken of he has visited, and most of them he has moreover sketched or

painted. It should be noted that the book is admirably adapted for the School or Village Library.

By Guy le Strange—

(14) "Palestine under the Moslems."—For a long time it had been desired by the Committee to present to the world some of the great hoards of information about Palestine which lie buried in the Arabic texts of the Moslem geographers and travellers of the Middle Ages. Some few of the works, or parts of the works, have been already translated into Latin, French, and German. Hardly anything has been done with them in English, and no attempt has ever been made to systematise, compare, and annotate them.

This has now been done for the Society by Mr. Guy le Strange. The work is divided into chapters on Syria, Palestine, Jerusalem, and Damascus, the provincial capitals and chief towns, and the legends related by the writers consulted. These writers begin with the ninth century and continue until the fifteenth. The volume contains maps and illustrations required for the elucidation of the text.

The Committee have great confidence that this work—so novel, so useful to students of mediæval history, and to all those interested in the continuous story of the Holy Land—will meet with the success which its learned author deserves.

By W. M. Flinders Petrie—

(15) "Lachish" (one of the five strongholds of the Amorites).—An account of the excavations conducted by Mr. Petrie in the spring of 1890, with view of Tell, plans and sections, and upwards of 270 drawings of the objects found.

By Trelawney Saunders—

(16) "An Introduction to the Survey of Western Palestine, describing its Waterways, Plains, and Highlands, with special reference to the Water Basin—(Map. No. 10)."

The new Map of Palestine embraces both sides of the Jordan, and extends from Baalbek in the north to Kadesh Barnea in the south. All the modern names are in black; over these are printed in red the Old Testament and Apocrypha names. The New Testament, Josephus, and Talmudic names are in blue, and the tribal possessions are tinted in colours, giving clearly all the identifications up to date. It is the most comprehensive map that has been published, and will be invaluable to universities, colleges, schools, &c.

It is published in 21 sheets, with paper cover; price to subscribers to the Fund, 24*s.*; to the public, £2. It can be had mounted on cloth, rollers, and varnished for hanging. The size is 8 feet by 6 feet. The cost of mounting is extra (*see* Maps).

In addition to the 21-sheet map, the Committee have issued as a separate Map the 12 sheets (viz., Nos. 5-7, 9-11, 13-15, 20-22), which include the whole

of Palestine as far north as Mount Hermon, and the districts beyond Jordan as far as they are surveyed. *See* key-map to the sheets.

The price of this map. in 12 sheets, in paper cover, to subscribers to the Fund, 12*s.* 6*d.*; to the public, £1 1*s.*

The size of the map, mounted on cloth and roller for hanging, is 4½ feet by 6¾ feet.

Any single sheet of the map can be had separately, price, to subscribers of the Fund, 1*s.* 6*d.* Mounted on cloth to fold in the pocket suitable for travelling, 2*s.* To the public 2*s.* and 2*s.* 6*d.*

A copy of names and places in the Old and New Testament, with their modern identifications and full references, can be had by subscribers with either of these maps at the reduced price of 2*s.* 6*d.*

Branch Associations of the Bible Society, all Sunday School Unions within the Sunday School Institute, the Sunday School Union, and the Wesleyan Sunday School Institute, will please observe that by a special Resolution of the Committee they will henceforth be treated as subscribers and be allowed to purchase the books and maps (by application only to the Secretary) at reduced price.

The income of the Society, from March 19th to June 18th, was—from annual subscriptions and donations, including Local Societies, £333 5*s.* 3*d* ; from all sources, £488 4*s.* 5*d.* The expenditure during the same period was £755 17*s.* 3*d.* On June 18th the balance in the Bank was £413 13*s.* 10*d.*

Subscribers are begged to note that the following can be had by application o the office, at 1*s.* each :—

1. Index to the *Quarterly Statement*, 1869–1880.
2. Cases for binding Herr Schumacher's "Jaulân."
3. Cases for binding the *Quarterly Statement*, in green or chocolate.
4. Cases for binding "Abila," "Pella," and "'Ajlûn" in one volume.

Early numbers of the *Quarterly Statement* are very rare. In order to make up complete sets, the Committee will be very glad to receive any of the following numbers :—

No. II, 1869; No. VII, 1870; No. III, 1871; January and April, 1872; January, 1883, and January, 1886.

It having been reported to the Committee that certain book hawkers are representing themselves as agents of the Society, the Committee have to caution subscribers and the public that they have no book hawkers in their employ, and that none of their works are sold by itinerant agents.

LETTERS FROM HERR SCHICK.

I.

The Discoveries at the Nicophorieh.

February 23rd, 1892.

In one of my last reports I promised to send you the result of measurements, &c., of the newly discovered tombs at "Awairiyeh." Mr. Lees and others) wished to go with me, and, if possible, to make photographs of the sarcophagi, and as there was such rainy and cold weather, we did not go before last week. Mr. Lees now sends two copies of his photograph, representing the front side of the large sarcophagus, and two pieces of its broken lid, which were put on it by us for the purpose, and also the lid of the other, put upon it in order to show the mouldings, which are its only ornament.

At the same time I made a drawing of the ornaments, and wished to send a copy of it to you, but my paper failed. However, I send it on as it is. I also give plan, section, and end view of this larger sarcophagus and its lid, on scale $\frac{1}{10}$ of the real size.

I sent my men once more there, with paper, &c., to make squeezes of the lid. They made two, and I send two copies of each.

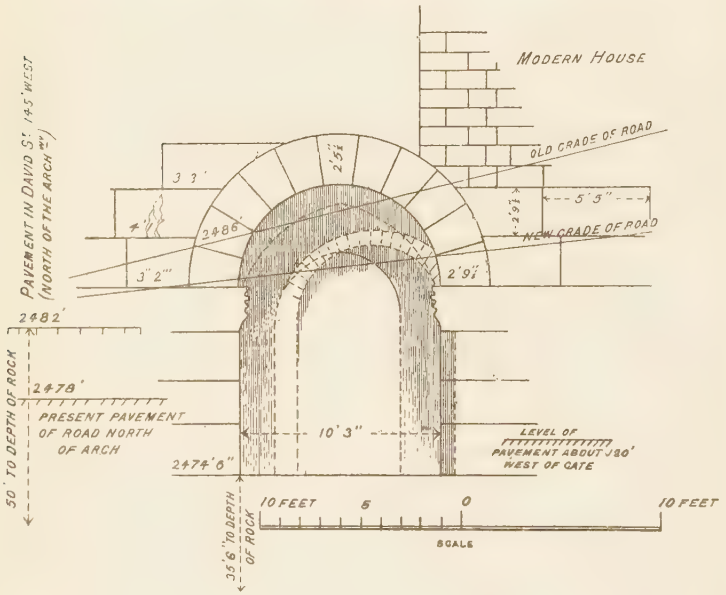
Also I send exact plans of the chambers and environs, one on scale $\frac{1}{120}$, and one smaller, $\frac{1}{200}$, to which a section is added. I consider the fine sarcophagus as that of Mariamne, the beloved wife of Herod the Great. The Russian professors and the Archimandrite Antonius here think this place was the mausoleum of the high priest Ananus, and refer to Josephus, Bell v, 12, 2, and just on this passage I ground my idea that it was the "Monument of Herod." The tomb of Ananus follows, soon after the Siloah Valley, and after it is mentioned "Pompey's Camp," which was on Abu Tor (the hill opposite Bishop Gobat's School), where the line bent northwards, and came to "Erebinthi," then to "Herod's Monuments," and then to the beginning of Titus' Camp, on the north-western corner of the town. These two sarcophagi are made with great skill, from native stone, or Jerusalem marble, such as is quarried near the Convent of the Cross. Herod himself is buried at Herodion—Frank Mountain—so I think this mausoleum here was for his wives.

II.

The Gate Gennath, &c.

April 16th, 1892.

1. *Gate Gennath* (so-called).—In the year 1867, Sir Charles Warren made some excavations on this interesting spot, inside the town, and on the northern brow of the so-called Zion Hill, on the supposition that this ancient gateway may have been in ancient times the Gate Gennath of Josephus (Wars, v, 4, 2). Of the said excavations there is a report in "The Recovery of Jerusalem," page 274, and also a front view, as far as it



THE GATE GENNATH (so called).

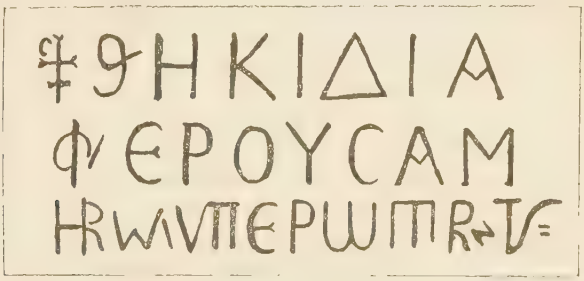
could be ascertained. Now, some months ago, the street became altered there, and the ground lowered, so that a large piece of the gate came into full view. As there seemed to me a few things notable, not mentioned in Sir Charles Warren's report, I examined the matter, and from what I found, together with what I know from other occasions, have furnished the enclosed drawing to which I give the following explanatory notes :— The pointed arch or the casing inside of the old doorposts, and shown in the drawing in pointed lines, has fallen out at its upper part. There is no more casing there, but an opening, and another arch of unhewn stones is seen further in (about 2 feet from the face inside) and not in the centre, but a good deal towards the south (as the drawing shows), going a little

behind the southern old doorpost—forming now a kind of sink, people casting there all sorts of fluid refuse.

Further, the voussoir stones have not all the same breadth, but the two resting on the posts are wider, the others, in accordance with their rising, becoming narrower. The key-stone has no projection, but what was more interesting to me is, that south of the arch there appeared large stones, and also on the northern side there were originally large ones, now broken in pieces by weathering. It is quite clear there was once here a strong wall, either of the town, or, more probably, of a special building.

Near the sill of this gate (2,474½ feet above the sea), Sir Charles Warren discovered "no pavement," but 120 feet west of it I found a pavement at a level of about 2,476 feet, the same level as the bottom of the two towers 80 feet more west or 200 from the arch (see Lewis's "Siege of Jerusalem," London, 1863, page 216).

2. *Inscription in the Muristan.*—A Greek inscription has been discovered in the Muristan, at the situation marked with a cross on the enclosed



INSCRIPTION FROM THE MURISTAN.

plan. It is on the wall of a pier, in one of the old rooms, on a smooth stone, only a few inches above the flooring. The pier is 6 feet 4 inches broad, of which the inscription stone (being 3 feet 4 inches long, and 1 foot 7 inches high) takes the greater half. It is not in the middle, but forms the corner, so that one receives the impression that the stone was used the second time, and is very likely a tombstone. But on account of its thickness, I think it was originally in an upright or standing position. The inscription is apparently Greek, greatly abbreviated, and with some of the letters joined together. The inscription is distinct, and the copy as good as I could make. If it be wished, I can make a squeeze. The stone is not marble, but ordinary Jerusalem stone.

3. *Christian Burial-grounds at Jerusalem.*—The Christian burial-grounds are on Mount Zion (so-called) outside the wall, and hitherto nearly all of them open places, without enclosing walls, the boundary of each being marked simply by a few stones, which sometimes caused unpleasant scenes, and as everyone, and even cattle, could walk over

them, the monuments were without any protection. The ground of the Latins being too small, and the Armenians having more space than they needed, an agreement was made by the parties, and boundary walls erected round about the portion belonging to each. As each wanted also a road for access, and the people of Neby Daûd wanted roads to their houses and to the Sheikh's tomb, it was agreed to make them, and under the oversight of the local authorities the boundary walls were quickly built. I send a plan of the new arrangement.

As these new walls were simply built on earth, nothing of importance was found in digging foundations.

4. The so-called "Skull Hill" being supposed by many to be the real Calvary, not only is a controversy going on respecting the matter, but English travellers go to the place, visiting and venerating it as the real Calvary. An English lady visited it and stayed one night in it, who could not understand that I had so little interest for it. Sunday, April 18th, Mr. Moody, the American revival preacher, had an assembly there on the top of the hill, and addressed a great number of people. I fear the Muhammadan authorities will forbid such things, their burial-ground being there. Major Conder's Holy Sepulchre becomes quite forgotten, and General Gordon's is now the favourite.

III.

Discovery in Solomon's Stables, &c.

March 28th, 1892.

1. The Dominican Brethren have made some discoveries at their ground, west of the "Skull Hill," of which I enclose a drawing, with the necessary notes and explanation. The drawing is simply a plan; I have not made a section, fearing it would, for one who has not seen the place, only confuse.

2. The clearings and levellings in the so-called "Solomon's Stables" are now ended. All the joints of the masonry have been pointed, so the whole now looks like new. From the place in the south-eastern corner, generally called the "Cradle of Christ," a flight of broad steps now leads down to the general level, which is in this part somewhat higher than before. The holes in the piers were formerly about three feet from the ground; now they are only a few inches, and some have disappeared under the ground.

At the south wall, between the "Cradle of Christ" and the "Single gate," a heap of rubbish lying there was removed, and by this some interesting stones came to light, about sixty-five feet west of the south-east corner, measured outside. One is about 7 feet long, and fully 3 feet high, having its surface covered with a rich decoration of leaves, scrolls, &c., carved in relief. It looks as if it was the side of a sarcophagus. I thought first it might be the lintel of a door, but, observing that there

is a similar but shorter stone just over it, with ornaments of another kind, it was clear to me that these stones are not *in situ*, but have been brought from another place, and used here simply as building stones. I had not time to make a copy of the ornaments, and, if I had, it might have come out imperfect. It would be much better to take a photograph.

3. The work at the "Golden Gate" is nearly finished; the building, with its two new supports, now stands quite free on three sides, with a space of twelve feet between it and the new enclosing walls, built to keep up the rubbish. On the western side a flight of wide steps leads from the upper level down to the foot of the building. It is less agreeable to the eye than formerly, looking confined and enclosed, and standing in a pit. The space behind the enclosing walls has been filled up with earth, and raised to the general level of the ground.

4. The heavy rains have destroyed a good deal of the new railway, and also one of the bridges. In the neighbourhood of Jerusalem nothing is done yet. The ground for the station at Jerusalem has been bought. It is to be near the German colony, west of the "hill of evil counsel," and close to the Bethlehem road.

As the cholera several months ago ceased at Damascus and elsewhere, the quarantine has been removed, and business is going on again, and pilgrims and travellers coming. We have had a good deal of rain, so that a prosperous harvest is hoped for. But in the Jordan Valley are locusts, and the Government has required a good many people (from every village twenty or more men) to go down and destroy them before they are able to fly. Petroleum was sent down, to pour on them when swept into heaps, to burn them.

Count Ziethen-Schwerin, of Germany, has been here, in reference to the German institutions, and especially the "Muristan" and the rebuilding of the old church there. The Count is a member of the Council in Berlin, appointed by the Emperor for these affairs—so very likely the work of building will begin in a few months.

A large hotel has been built by the Armenian Convent, and is already open. It is situated on the Jaffa road. Just opposite the sharp turning of the town wall, and on the southern side of the Jaffa road, where the ascent is greatest, a *new road* has been made, which is a continuation in a straight line of the Jaffa road starting from Jaffa gate. This prolongation will meet the Jaffa road again, a little west of the large gate in the Russian wall. It will be level, not going up and down again as the present road in this place does.

Jewish houses are now being built along the Jaffa road as far west as the third watch-tower. Others are designed still further out, at the place where the road to Deir Yesîn and Ain Karim branches off. A large building is to be erected as an institution or boarding house for fifty old Jews, single men, having no one to provide for them. I am just now about to make the plan for the building. So you see, that if in future things go on as in the few last years, the City of Jerusalem will be extended to the brow of the large valley of Lifta and Kolonia, and

towards the south half way to Mar Elias, where a settlement for one hundred families will be made, for which I have already made the plan, and permission has come from Constantinople.

IV.

Discovery of Mosaic Pavement near the (so-called) Church of St. Stephen.

March 29th, 1892.

The Dominican Brethren have built a new school on their ground, situated at the western foot of the Jeremiah grotto hill, south and west of the traces of the ancient Church of St. Stephen (see *Quarterly Statement*, 1891, page 211), just in the north-eastern corner of the piece of ground with many trees. In digging the foundation for this new building, they had to clear the place to some degree, by which they found a *mosaic pavement*, very well preserved, and some other things of interest. The things are preserved and a shed built over them. It is east of the new building, south of the word "Cistern," on the map which is found at the page quoted in the said *Quarterly Statement*.

If one goes southward from the traces of St. Stephen's Church he comes to a few steps, situated in a former wall, and leading about 2 feet 6 inches downwards to a level pavement or kind of court. This pavement consists for the greater part of rock, the rest of flag stones. In this pavement, or flooring of the court, are three openings or holes made into the rock. In the first are steps cut in the rock, leading about eleven feet downwards to a chamber, also cut in the rock, which has two large graves, of Christian origin, 6 feet long, 1 foot 9 inches wide, and more than 2 feet deep.

The northern one is regular in every direction, the southern not so, and situated a little higher. Towards the passage *between* them, the sides are formed of large stone slabs, put upright into grooves cut in the rock. The opening, which exists in the roof of the chamber, over the southern tomb, did not exist originally, but has been broken in later by some accident. The third hole is near the south end of the court, of an irregular shape, narrowing downwards and leading to a rock cave, its flooring twelve feet under the level of the court; it was apparently to some extent natural, and afterwards enlarged and more rounded out. The opening was originally simply a cleft in the rock, and was then rounded to a hole, through which one can go down, first to a projecting part of the rock, or kind of shoulder, and from it down into the cave. Under the so-called "shoulder," and a little south, is a projection resembling a small *altar*, opposite which, on the wall near the ground, a *cross* is found chiselled into the rock. At the first look one thinks this cave, with its hole, to have been a cistern. But no cementing is found, and other indications give the idea that it was once the lodge of an

Eremite. East of it, and higher than the bottom of the cave, is a chamber 5½ feet long by nearly 4 feet wide and about 6 feet high, cut in the rock. The top of its roof is 3 feet higher than the level of the court. Five steps lead down into it, of which the lowest has a semi-circular form. The monks think it was a "bone house," as there were many human bones found in it. The wall forming the court runs in a slanting direction over it, as the plan shows.

There is to the north-eastern corner of the court another short flight of steps leading to a similar but somewhat larger chamber, of which the walls are rock, but the roofing is arched, and at the highest point 7 feet

Mosaic Pavement.

high. But the most interesting part is the mosaic pavement mentioned above. A kind of passage leads from the court between the holes in the flooring westward to another small court, surrounded by a low wall of a regular shape, 18 feet long and 11 feet wide. The flooring round about is of flag stones, and in the centre is a piece of fine mosaic formed of small colored stones of various colours. The mosaic is 14 feet 6 inches long and 7 feet 3 inches wide. It has a framework formed of two rows of *black*, then two rows of *white*, one row of *red*, and one row of *black*

cubes. Inside this frame, and in a diagonal direction, are straight lines, of one black, one white, and one red stone forming quadrangular spaces, whose sides are about 8 inches long, not with regular angles but so that they are longer than wide. In the middle of each space is a kind of rosette or star. And in the middle of the whole is a circular band of black, red, and white stones, with four rosettes at equal distances. Inside this round band is an animal, some thinking it to represent a gazelle, on account of its long feet, others call it a lamb on account of its full body and the full long tail. I myself think it represents a lamb. It certainly had an allegorical meaning, as well as the two branches of some plant joined to it, as the drawing shows. I have the impression that this place was once a Christian chapel.

The monks have reported on these things to Paris, and their report was published in the *Revue Biblique*, No. 9, 1892.

The Superior was kind enough to give me a photograph of this pavement, which I enclose. It is certainly more exact than my drawing, but I made the latter in order to give the colours, and the situation, as it is connected with the other things described.

NOTES FROM TELL EL HESY.

By F. J. Bliss, B.A.

May, 1892.

The month of siroccos is on us, and Friday is our unlucky day. May is a windy month, but the west and south winds do us but little harm, for the high walls formed by the part of the Tell at south and west still left standing protect the place of the excavations. However, when the north and east winds blow the interruption to work is sometimes serious. Imagine great slopes of lately-thrown earth to north and east, add to this the dust and earth thrown by fifty or sixty girls in the teeth of a fierce gale, and then gather some idea of the blinding dust which envelops the whole field of excavation when the sirocco is at its worst. Twice we have had to suspend work for some hours, following the double dictates of prudence and humanity. Noon is a crucial hour when the east wind usually shifts to the south. On these hot days the jar is on its way constantly to and from the stream, and we have to follow a military discipline of turns in watching the multitude, or the girls would fall upon the jar with much fighting.

Readers of Mr. Petrie's "Tell el Hesy" will remember his reference to the bed of ashes over five feet thick occurring in the stratification of the Tell. The lack of results this season is due to the fact that we have had to remove this awful, unprofitable layer in order to get at the Amorite town below. I cannot picture the tediousness of the job we have had in removing almost 100,000 cubic feet of this wretched stuff. Our finds are few, but include a small statue of a man in bronze, a few inches high, and a tiny bronze goat with two kids sucking. A full list of all finds

will appear in the report, but in the meantime I make a few notes on my general experiences and observations in this camp life.

Last year we had hardly any rain here after March 15th, but this year a violent storm occurred in April. Early in the morning of the 23rd I was awakened by the sharp pattering of rain on the tent. We hardly expected the workmen, but they appeared and went off to the excavations. More rain fell, however, and heavier, the wind rose, and as I was taking my coffee I saw the men and women flying from the Tell. I directed the men to take shelter in the guards' tent and the women in another tent that stood empty. But far from empty was this small, ten-rope tent, when sixty women and girls had packed themselves into it, sardine-fashion, overflowing at the door.

Yusif came to my tent to make the wages accounts, for it became plain that no more work could be done that Saturday. Hardly had I opened note-book when down crashed the tent over our heads, I escaping by the door, and Yusif still left within. The sudden gale which had threatened the destruction of all my breakfast dishes, had also overturned the Effendi's tent (he was away at the time), and the tent in which the girls had taken refuge. With an absurd mingling of amusement and apprehension I saw the poor creatures squalling, creeping, crawling out of the *débris* of the tent, falling over each other, laughing, crying, and finally running about like chickens terrified by the appearance of a hawk. Fortunately, no one was injured, and the only thing broken was my balance, while one gramme weight was lost.

I have been more successful in managing my small "labour question" than last year. Then, when the barley harvest began about April 25th, we lost almost all our good workmen, as we increased the wages only from nine piastres (a Gaza piastre is about 1*d.*) to 11½*d.* for a man and from 5*d.* to 6½*d.* for a girl. From that time to May 15th, when we gave up work, we had a varying set of wretched people, many being either too old or too young for work. This year, on about April 25th, I raised the men's pay to 15 piastres, and the women's to 8, with the result that I have secured as many as I care to have of the good old hands. We have thus successfully competed with the Arabs, who draw off the fellahîn to the barley harvest. I hope we may go on with a few good workmen till about June 1st, when the wheat harvest will drive us from the field, as it would not pay to go on increasing the wages, though I must say that 15 piastres is better economy in the early summer than 9 in the deadly malarious autumn, when we must return to finish the task.

I have hereto presented a rather rose-coloured view of the character of our workpeople. There is, however, another side. The fellahin here are terribly profane, and indulge in cursing freely. "May God not have mercy on your father!" is constantly heard. Men, women, children, all swear. "Wullah!" is used in assertion, interrogation, admiration. Some oaths have peculiar sanctity. The Faluji, a local saint, will not permit his name to be taken in vain. "Are you fasting?" I asked a lad in Ramadan. "Wullah, I'm fasting." "By the life of the Faluji, are you

fasting?" The lad's face fell. "No," he said, "I'm not." The Faluji's name practically more terrifying than the Almighty's.

The freedom and foulness of the language is extreme. Forbidden subjects are discussed most freely before the girls, who seem to see no impropriety. This licence seems to be entirely confined to speech, however, but it is certainly shocking, Major Conder's observations on the peasantry are capital, but I must disagree with him on one point. He found in them little sense of the ludicrous, but I have seen a good deal of fun in them. One fellow we employ has a dry humour about him that is very popular with his fellow-workmen. They are very quick to appreciate any little caricature I may give of their characteristics. They also give nicknames, striking sometimes for their aptness, at others for their satire.

We have had a very pretty instance of family affection in the case of Khalil and his two elder sisters who work with him. He is a pleasant, amiable, easily-led boy, but a spoiled darling. His sisters try to ease his work in every way. Once he had a very slight chill and fever. They were inconsolable, would not eat or sleep, and went about their work distracted, begging to know if I thought he would live!

The custom of paying a man a large sum for his daughter on her marriage is well known, but I note some odd effects of it. For instance a boy's sister is a most valuable bit of property. When he wishes a bride he can trade off his sister, and so gets the bride for nothing. I asked if a certain girl were married, and the answer was: "No, her brother is with her alway." Which meant that she must remain single till her brother should return to use her as an exchange for a bride of his own. I have referred once or twice to the nice lad Monsûr and his bold bride-elect Henda. My fears were justified: she proved too much for him, and after a brief but stormy union she went back to her people. Now comes in a singular complication. Monsûr traded for Henda by marrying his sister Fatung to Henda's uncle Rizq. Fatung and Rizq proved a happy couple, but when Henda ran home, poor Rizq had to lose his bride, who was ordered to her old home to bake and draw water. Her hostage having failed, she had to be returned. Admirable business, but indifferent romance. So Henda, who had been basketing earth for Monsûr before the brawl, worked after her uncle Rizq, within a few paces of her estranged husband; while Fatung, with easily imaginable rebellion in her heart, filled her basket with the earth dug by her brother Monsûr. But she said never a word nor cast a look at Rizq. "She has been well brought up," said her brother proudly; "The trouble with Henda is that she had no one to beat her." A thing a girl must get used to in her youth as Monsûr found to his cost when he tried to supplement the imperfections of her early training.

Monsûr was talking of a divorce (for the separation thus far was tentative), when the inevitable middleman stepped in—the peacemaker, the reconciler—and the original *status quo* was restored. This functionary plays a most important part in the East. The protagonist of one quarrel may be

the peacemaker of the next. Indeed, I sometimes suspect that the fighting parties do not care to come actually to blows until they see the peacemaker advancing around the corner!

One difficulty in the work here arises from the crops with which the Tell and its approaches are planted. This spring we found a crop of lentils on the Tell, and barley all about it. I made a liberal estimate of the value of the crops in the actual place of excavation and made allowance for the damage to crops in the paths we would have to make for the labourers. I told Yusif to offer the Bedawy Hussein three Napoleons, and, if necessary, to advance to four. I knew the preliminaries would take some time, and retired to my tent to watch the battle from afar. In a shorter time than I had expected, Yusif appeared with Hussein saying that they had inspected the Tell and that he had agreed to accept three napoleons. I said to Hussein; "Does your father agree?" "He does," he replied. So the money was handed over, and I was congratulating myself that the last interruption to the work had been removed, when the farcical drama really began. For, lifting up my eyes to the door of the tent I beheld the Patriarch striding over the fields firmly grasping his stout staff. Was this the feeble old man we had never taken into account, and who usually seemed too weak to crawl along? He entered, and I knew mischief was brewing. Hussein handed him the money. He looked at it, laid it on the table, and then delivered himself of a masterly speech, which I wish I could reproduce. He repudiated the money—he wished to know our rights to work in his land—he grew stormier and stormier. Meanwhile Hussein, with as masterly an appearance of disgust, reproached his father for stultifying him in this manner before the Khowaja. Washing his hands of the whole matter he made a dramatic exit, and the old gentleman rushed off in the other direction. The money remained on the table. I saw in the affair, merely a trick to get another Napoleon out of us, and told Yusif to manage it as well as he could, for delay to the work could not be allowed. Then followed various colloquies: Yusif and Hussein—Hussein and his wicked old father—Hussein, Yusif, and the old man; and finally they all reappeared with a paper having the old man's seal, and declaring that he would be entirely satisfied with four Napoleons. So ended the negotiations; but to this hour I cannot tell whether Hussein was in the game or not. If so, then he is a most accomplished actor. About the old gentleman there can be no doubt. After his temporary robustness he subsided into his usual decrepitude for a couple of months, but he has had another revival of strength, and has just started off with the pilgrimage to Mecca, taking with him wheat, semen, cheese, lentils, and twenty napoleons as provision for the journey.

The tricky methods of the Syrian peasantry are a constant source of surprise to me; not so much because of their cleverness as because they themselves are so easily taken in by them. If Ahmed wishes to get something out of Mohammed, he cajoles him by the very same wiles that Mohammed would successfully use against Ahmed. Mohammed grossly

flatters Ahmed and makes his point, while next day Ahmed will grossly flatter Mohammed and make his. I suppose the philosophy of it is this: a man plays upon the weakness of his neighbour, and, sharing the same weakness, may be played upon in return. It is cunning, not cleverness, in many cases, while of course it may rise into real diplomacy. But after all diplomacy is very much the same thing the world over, and the only sure diplomatist is the man who has conqured his own weakness.

The present season has been a disappointing one. Of course I knew that the bed of ashes existed and had to be removed, but the event in this case was more vivid than the anticipation. The autumn should be our most interesting season as the entire work will be in very early periods. We shall certainly need some exciting discovery to cheer us in the gloom of the malaria that hangs over this district before the winter rains. Negative results are often valuable in the field of discovery, but the discoverer himself may be pardoned for longing after the stimulus of something positive.

NOTES BY G. ROBINSON LEES, F.R.G.S.

JERUSALEM, *February 11th*, 1892.

1. *Pottery from the Sarîs Cave.*—The Rev. J. E. Hanauer, on page 72 of the *Quarterly Statement* for April, 1890, mentions in his account of

POTTERY FROM THE SARIS CAVE.

our visit to the Sarîs Cave, that I found an old lamp, and on the same page speaks of the Freemasons as having been to the same

spot. The other day Mr W. H. Kayat kindly allowed me to photograph the pottery found by him and his brother Freemasons, along with my lamp. The latter is on the extreme left of the picture. It is of warm red brown pottery, very coarse in texture. The bowl is in the shape of the earliest Phœnician, being open and pinched up into a spout, but the latter is more open than usual, and the bottom of the lamp is thick and rounded. It is evidently of that transition period when many of the Phœnician Ayles were merged into the Greek (*see* page 44 and No. 227 of Plate IX in Mr. Flinders Petrie's "Tell el Hesy"). In the large broken jar in the centre of the picture is the lower part of a similar lamp. The large jar which contains the few broken pieces is light greyish drab pottery, much finer in texture than any of the other pieces. The handle at the top is not a part of it, as it is more yellowy in colour, otherwise there is not much difference in the two pieces as regards kind and quality. According to the author of the book already mentioned, page 45, this is also Phœnician.

The small jug on the left has a broken counterpart near to it, on the lamp, which shows the circular rib of the inside. This and the remaining pieces are of light-red pottery, made of coarse clay, on which the earth has in process of time adhered so strongly that it seems a part of the surface, and so gives it a grey appearance. These jugs seem of a later period than the first-mentioned articles, and I am inclined to think, on again referring to Mr. Petrie's book, page 47, that this is Jewish pottery.

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2. *Potters' Marks on Christian Lamps.*—After careful examination, I have found potters' marks on three of the lamps from the tomb at Isawyeh, mentioned in the last *Quarterly Statement*, which no doubt show that the lamps were made towards the close of the Roman occupation of this country, as a palm branch, as a potter's mark, was only used in the latter days of the Roman Empire.

On referring to the potters' marks, on page 39 of the last *Quarterly Statement*, I would suggest that they are the initials of the names of the potters, Nos. 1 and 3 most probably being of slaves, and Nos. 2 and 4 either of the proprietor or master of the pottery.

I gather this suggestion from Dr. Birch's "Ancient Pottery," as he draws a marked distinction between the position of the owners of one initial, and two or more.

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3. *Lamps from Tomb near Silwan.*—I send you a photograph of three lamps found in a tomb south of the village of Silwân, which I hear Mr. Schick has planned. One is broken, and is consequently kept in the background, the most prominent place in the picture being given to the most complete and interesting. All three are made of fine red unglazed ware, and, according to Dr. Birch, in the work above mentioned, lamps of this kind were made during the decline

of the Roman Empire. These two further answer to his description, but more especially the one with the fish, as he says, "They are long and shoe-shaped, having subjects stamped on a flat bas-relief. These consist of the monogram of Christ—the great whale which swallowed Jonah—a fish, alluding to the monogram ΙΧΘΥC, in which was contained, 'Jesus Christ, Son of God, the Saviour,' necklaces of crosses, and other objects, and symbols."

The lamp with the fish has two on each side, each pair being separated by a rose. The one with heads has six in number, between which are palm branches, and the third, which is almost invisible, has triangles and roses.

Three other lamps were taken away by a priest, which I have not seen, but I was able to get a few links of a chain, and two beads that were found in the same place at the same time, which I hope to place in our museum here which we are forming in connection with the Fund.

LETTERS FROM REV. J. E. HANAUER.

I.

A Curious Coin.

Jerusalem, *May 2nd*, 1892.

This morning's mail brought me the *Quarterly Statement* for April. As I am on the point of leaving Jerusalem for Safed, I would, before starting, only write a hasty note to suggest that "the curious coin" figured on page 168 should be carefully examined again, if necessary, with a magnifying glass. I am confident that on the collar of the dress will be found the letters of the name משה = Mosheh = Moses; showing that the head is intended to represent that of Moses. In the celebrated statue by Michael Angelo, the great Jewish lawgiver is represented with horns. The idea of "*The Horned Moses*" is derived from the Latin rendering of the Hebrew word קָרַן in Exodus xxxiv, 29. It is translated "shone" in the English Authorised Version, but the original really means, as may be seen by reference to the marginal reading of the Revised Version, "horns," and accordingly in the Vulgate the passage reads :—

> "Cumque descenderet Moyses de monte Sinai, tenebat duas tabulas testimonii, et ignorabat quod cornuta esset facies sua ex consortio Domini.
>
> "Videntes autem Aaron et filii Israel cornutam Moysi faciem timuerunt propè accedere."

These modern "antiques of Moses" used to be rather common in Jerusalem in my boyhood. I have seen several on which the name

מישה was very clear. There is such a one now in the collection of the Rev. A. Hastings Kelk, Incumbent of Christ Church, Jerusalem.

II.

On the Identification of Calvary.

Having just had an opportunity of reading Major Conder's interesting article in the current number (April, 1892) of "Good Words," on "The Place of a Skull," I beg leave to offer the following brief remarks on the same subject, in the hope that what I have to say will prove new to the readers of the *Quarterly Statement*, and not displeasing to Major Conder himself.

I have, in the first place, to announce the important and (to me, at any rate) significant fact, that the Herodian tomb to the west of the Damascus road, and known as "Conder's" Tomb, has, with the field and olive trees close by, been purchased by the Franciscans, or Cordeliers, the traditional guardians of the "holy sites," who have enclosed the whole place with a carefully-built dry stone wall and gate, with lock, and had the fine old olive trees trimmed.

In the second place, I would point out (what seems to me not to be generally known—at any rate, I have found no allusion to the fact in any of the publications of the Palestine Exploration Fund) that there exist ancient Christian traditions, *dating back to the early part of the second century*, and *possibly even to Apostolic times*, and indicating that "Gordon's Calvary" was a "place of stoning." "Gordon's Calvary" is the remarkable hillock above the cave called "Jeremiah's Grotto," because Jeremiah is said to have written his Lamentations there, and, what has been apparently forgotten or overlooked, *because he was stoned there*. Annually, on the 4th of November, the Orthodox (*i.e.*, Greek) Church commemorates the fall of Jerusalem, and during the special Service for the day a portion of an ancient Christian Apocalypse, of the year 136 A.D., and giving an account of the stoning of Jeremiah, is read. The Apocalypse in question is entitled "The Rest of the Words of Baruch," and has recently been edited by Professor J. Rendel Harris (Cambridge University Press). In his Introduction to the work, Professor Harris says, that an "important tradition concerning Jeremiah is that he was stoned. This is not an original idea of the Christian Baruch. We find it in the Epistle to the Hebrews. The famous passage, 'they were stoned, they were sawn asunder,' &c., is a summary of the sufferings of the worthies of Faith, and each statement is based on the history of some real person: it has always been known that 'they were sawn asunder' referred to Isaiah, just as 'stopped the mouths of lions' referred to Daniel, and 'quenched the violence of fire' to the three Hebrew children; but it is not so generally felt that 'they were stoned' belongs to Jeremiah. Yet such is the case, as the Baruch-Jeremiah legends show; and the Epistle to the Hebrews is therefore one of the early witnesses to the tradition.

. . . . The place of burial of Jeremiah is still shown in Jerusalem, in a cave which passes by the name of Jeremiah's Grotto. This grotto lies in the southern part of the conspicuous hill to the north of the city, which is supposed by many persons to be the place called Calvary. . . . . And it is said that this hill is the Tarpeian Rock of ancient Jerusalem, the Beth-hassagelah, or 'Place of Stoning,' of the Talmud. It seems, then, that there is some connection between the death which Jeremiah met, according to tradition, and the place where he is said to be buried. And the tradition concerning this stoning in Jerusalem must be early; for the uniform church tradition of *later* days, as we find it in the life of Jeremiah, attributed falsely to Epiphanius, or the life that is given on his commemoration day in the Greek Church (*see* Menæum, for May 1), is that he was stoned, indeed, but at Tahpanhes in Egypt, and not, as the Jerusalem tradition and the Christian Baruch say, in Jerusalem. Can we be wrong in affirming the antiquity of the tradition which we find in our authority. The opinion of the first and second centuries seems to be that Jeremiah was stoned in Jerusalem," pp. 23, 24. In a foot-note to the above, the same recognised authority on Patristic literature remarks, "I do not forget that an attempt might have been made to bring the legends into harmony with Our Lord's words, 'O, Jerusalem, which killest the prophets, and stonest them that are sent unto thee,' but such a tendency would not have produced an earlier tradition, but a later one. It is more reasonable, though the hypothesis is not necessary, and might even be fanciful, to understand our Lord as saying this in allusion to the legends. When He said it He was in view of the place of supposed martyrdom of Isaiah on the south of the city, and of Jeremiah on the north."

I have quoted the above, because it strikes me that it contains a valuable addition to the already considerable mass of cumulative evidence we possess in favour of "Gordon's Calvary." Whilst, in my opinion, it is much to be regretted that, going to extremes, a good many Protestant tourists show an inclination to make a fetish of the mediæval tomb called "Gordon's," it is most satisfactory to find that we have so many different and independent lines of evidence in favour of Major Conder's identification of the "Place of a Skull."

NOTES BY MAJOR CONDER, R.E.

I.

Dusratta's Hittite Letter.

I have already, in a short paper in the *Quarterly Statement*, called attention to the Hittite letter of Dusratta (*see* "Altaic letter from Tell Amarna," *Quarterly Statement*, 1891, p. 245) and have communicated to

the Royal Asiatic Society a detailed account of this important text, of 512 lines of the Hittite language, including about 400 different words. As the *Quarterly Statement* could not contain all that should be said on the subject, I have sent a brief summary of results.

Dusratta, who lived about 1,500 to 1,450 B.C., was King of Mitani in Southern Armenia, son of Suttarna and grandson of Sitatama. His sister Thi was the queen of Amenophis III of Egypt, and his daughter Tadukhepa of Amenophis IV, her first cousin. The latter was thus half Hittite by birth, with a Hittite wife, and these unions, preceded by more than a century the marriage of Rameses II to the daughter of Kheta Sar the Hittite prince, who is called after her marriage (Brugsch, Egt. II, p. 75) *Ur-ma nofiru-ra*. The letter of Dusratta, in his native language, refers to the embassy sent from Egypt, to ask for his daughter's hand, and to the offer of recognition of his conquests in Phœnicia. He sends a gift or tribute to the King of Egypt, and requests a written decree on papyrus to confirm the verbal message of Menes. He sends his own relative Gilias to conduct negotiations, and interpreters and scribes to translate and read his letter, which was written on both sides of a clay tablet in the cuneiform characters.

The most important parts of the letter are those which refer to his religion and to his kingdom. He worshipped the Akkadian god Ea, and a god Tessub, who was the local representative of Rimmon. His father's name Sut-tarna ("Set judges"), shows that the Hittite deity, Sut or Set, was also adored in Armenia; and we thus find that the religion of Hittites, Armenians, and Akkadians was probably the same, as well as their language, and their very pronounced Mongol type of face and of dress. The language, it may be remarked was more nearly akin to pure Turkish than to any other branch of the Mongol speech. It has nothing in common with the Aryan dialect, which was spoken 700 years later in the region near Lake Van, and which superseded the old Mongol dialect after the time of the advance of the Medes from the Caucasus against Assyria. The present inscription at last renders these points indisputable.

Dusratta was a Minyan (*see* Jeremiah li, 27), and his capital was at Ikhibin, which may be the modern Kaban Maden; but it appears that he had extended his conquests westwards, to the country which was then ruled by Egypt—the Hittite region of Northern Syria. The Minyans, or *Men*, had ruled for centuries over the Delta in the Hyksos period, but had been driven back to their home some 200 years before Dusratta's time, by the first kings of the 18th Dynasty. They seem to have been the chief power in Armenia at this time, bordering on the Assyrians on the south, and on the dominions of the Semitic prince of Elishah to the west. The following passage in the letter is of special interest.

"Brother, thy border in the land over against Egypt is . . . . and to proceed, I being empowered to extend myself thereto, command thou the people to take me as prince and master: their duty . . . being made known by interpretation made, is not the owning of the land thus made

clear? Proclaim thou for me that, whatever I have conquered of the land of Chalcis, the land of Chalcis in Phœnicia west of the Minyan Kingdom, is made subject. Brother, thy word is enough; none henceforth will dispute my right to be the people's master. As to the going forth thereof, is it not thus that it shall be?

"To proceed, let my brother send his order to me alone, as to that which I desire to have extended. The order received, I go forth. Brother an order, if thou favourest me, is to be all clearly written. Thereby this region being ruled united by me, I being Suzerain of the people of the Hittite country, taking to me all the conquered people. Let it reach to the city of Harran."

Turning to the map we find Harran (*Harrân*) not far from the Taurus on the edge of the southern desert, and Chalcis (*Kinnesrin*) south of Aleppo being the Khalka conquered by Thothmes III a century earlier (No. 140 of the Karnak list). Thus Dusratta was to receive a large slice of Phœnicia and Northern Syria, including the important towns of Merash, Aleppo, and Carchemish, and was to rule these apparently, together with Militene or Mitani, and the Minyan country to Lake Van, as a tributary of Amenophis III. The Egyptian boundary proper would then extend not far north of Hamath. All this Hittite region revolted from Amenophis IV a generation later, and in a later letter we hear of the Hittite King flying for protection to Mitani itself, while Egyptian vassals were striving to maintain the decaying power of the husband of Tadukhepa—perhaps during the lifetime of Dusratta, who survived Amenophis III.

The latter part of this very important political document refers to the marriage of Tadukhepa, who was to be conducted by Menes to the land of Zoan and to Egypt, and married in Thebes (*No*) "before the image" to the Egyptian heir. This arrangement was duly carried out. The last paragraph of the letter appears to read somewhat as follows:—

"Assuring you that all that prince and people can do will be done speedily, it is hoped that the Minyan will be commanded to the fullest extent. Brother my subject acting for me as thought best, the subject having received fully written what is to be graciously conveyed to me in the Minyan land, the princes (Khakhans) ruling the whole race of the Minyans having agreed: this people which my brother makes subject to me seeing that what I do is beneficial to their land, ready as subjects to trust what I do: a decree being made: my brother and the princes ruling Minyan land being agreed, and the people being submissive; and all I had to speak about being written, an increased renewal of friendship (is produced) the Minyan Kingdom being increased, and I too if the subject race are not obedient levying war if obliged . . . . therefore again make thou the people to be (ruled?) by a prince."

The importance of this text, in connection with the decipherment of the Hittite inscriptions, is evident. Together with the letter of Tarkondara, Hittite prince of Rezeph, near Palmyra, it is written in the Hittite language; and we thus obtain with certitude the forms of that language

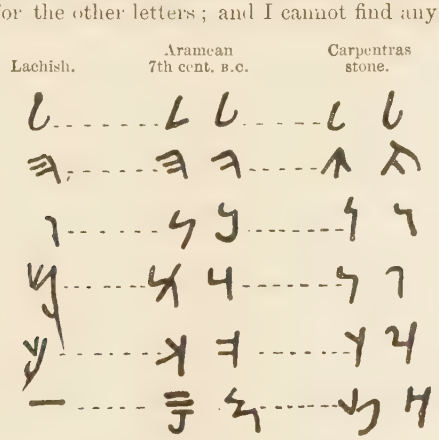
and its grammar, and a vocabulary of 400 words. By grammar and vocabulary alike it is clearly shown to be a Mongol language closely connected with the yet older Akkadian, and with the pure Turkic speech of Central Asia, which is completely known to us, in the case of the Yakut dialect, through the labours of Böhtlingk (published at St. Petersburg in 1851), although very little studied in England. It will henceforth, I think, be agreed to abandon the erroneous comparisons with Hebrew, Armenian, Georgian, Vannic, Aryan speech, and Chinese, which various scholars have proposed, in favour of the comparison with languages of the same age in which the Hittite texts were written, and of the countries more immediately adjacent.

II.

The Tell el Hesy Text.

The newly proposed reading לְהַסֵּךְ for this text, seems much more probable than those before suggested, inasmuch as it recognises that the second letter is ה, and because it avoids the improbability of the word being a personal name, to which I have referred in a previous note. The opinion of M. Renan on such a question is also of considerable authority. Still, there remain difficulties in such a reading, which should not be overlooked.

It is the case that on the Carpentras stone the *Samech* has a shape somewhat like that of what I have supposed to be *Vau*; but this monument (which is said to be of the first century B.C.) does not give the proper forms for the other letters; and I cannot find any earlier example



of an Aramean *Samech* of suitable shape. The comparative table will show what I mean. The proposed reading might perhaps mean "for anointing oneself"; but the forms of the other letters seem to me to

show that the text is about the seventh century B.C., when the *Sameck* had not assumed the supposed form. For these reasons I regard לחנוך as still a probable reading.

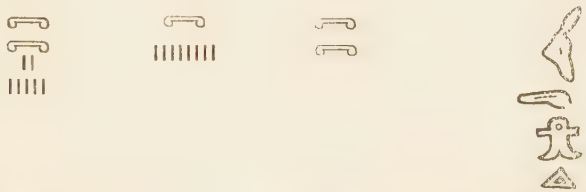
III.

Recent Hittite Discoveries.

12*th May*, 1892.

Among other valuable texts published by Professor Ramsay and Mr. D. G. Hogarth, are those discovered by Sir Charles Wilson, at Gurun, which are specially interesting because they are the first on which it seems clear that numerals are represented, and they serve to confirm my conjecture as to the sign for *ten*. The numerals which occur include nine vertical strokes for "nine," and eight for "eight," and the following groups also occur (Figs. 1, 2, 3):—

Fig. 1. Fig. 2. Fig. 3. Fig. 4.



The first of these appears to stand for "twenty-seven," and the second for "eighteen," while the third is "twenty." The Hittite numeral for "ten" has thus the same form which is used both in Egyptian and also in Cuneiform, and its probable sound would be *un*, as in Akkadian and in Turkic speech for "ten."

There is a seal in the Ashmolean (Fig. 4) which Dr. Sayce regards as a new Hittite bilingual, having a text of three lines in ancient Cuneiform of about 1800 B.C. Dr. Sayce reads it, "Indisilim, son of Serdamu, worshipper of the deity *Iskhara*." The four Hittite emblems are as shown in the sketch, and according to my system of reading may stand for *Isgar Raba*, "Slave of *Isgar*." The first sign is not a deer's head, but clearly that of the ass.

IV.

Notes on the "Quarterly Statement."

P. 115. The tombs found on the hill west of the Montefiore cottages belong to the class of Roman and Byzantine tombs which are particularly numerous east of Jordan, dating from about the second to the fourth centuries, A.D. But it is not impossible that the new tombs may belong to the first century A.D.

When Josephus speaks of "Herod's monuments," which Herod does he mean? Herod the Great was not buried at Jerusalem, but at Herodium. Herod Archelaus died in Gaul; Herod Antipas died in Spain; Herod Philip II was buried at Bethsaida in Galilee; Herod Agrippa I (A.D. 37–44) died at Cæsarea, but may have been buried at Jerusalem, and seems to be most probably the Herod intended ("Wars," v. 12-2.) The monument lay west of Jerusalem, but the indication of site is very vague. The masonry of the new tombs is not unlike that of Herodium, and the mouldings might in Palestine be as early as 44 A.D. The supposition that "Herod's Monuments" have been discovered is, therefore, not unreasonable.

P. 120. The tomb at the Rock of the Skull was not a new discovery, even when General Gordon was in Jerusalem. It is described in the memoirs, but there is no reason for regarding it as a Jewish tomb. When I first entered it it was full of human bones. It belongs to the middle ages, and was used by Latin Christians of the twelfth century. On this point I have written more fully in "Good Words" for April, 1892. I do not think, therefore, that "everyone may choose as he likes" in such a question, when the tombs which are proposed for the Holy Sepulchre belong to much later times.

The tracings received of the crosses and letters found in this tomb, and mentioned in the memoirs, show that the cross is that of a Latin patriarch, and, consequently, not older than the 12th century. The accompanying letters are often found in similar cases, as, for instance, in the 12th century monastery of Kasr Hajlah in the Jordan Valley.

Mr. Bliss's report on his excavations shows how much is to be found by digging in Palestine. Unfortunately, the indications of date at Tell Hesy are at present very meagre, but it cannot be doubted that the town existed in the times preceding the captivity. The most distinctive indications as yet are a wall showing the usual features of the Byzantine masonry of the fifth century A.D., a Greek inscription, not very early, but found low down, and a Hebrew or Aramaic jar text, which at earliest is of the seventh or eighth century B.C. The fragments (p. 109) described as "Amorite pottery," bear marks which resemble Hebrew or Aramaic letters in some cases of late date (about the second or third centuries B.C.), though a few may be older; but as the Phœnician alphabet is not supposed to have been invented till after 1400 B.C., it seems clear that these remains cannot be dated very early, even in the earliest examples, nor unfortunately do the Egyptian scarabs give very clear indications of date.

P. 115. I am unable to find in any of the published Tell Amarna letters, or elsewhere, any indication of the use of cuneiform in Egypt. The supposed "waste scraps of the cuneiform scribe who wrote answers to the celebrated tablets from Babylonia," are not stated to be of unbaked clay, and if unbaked would hardly have lasted 2300 years. If they are baked they would not be "waste scraps," but rather fragments of the letters already known. King Dusratta in writing to Amenophis III

speaks of the reply as being on "papyrus," and no doubt in Egyptian characters as are the dockets on the letters received. These letters also show that interpreters were sent to Egypt to decipher and explain them, since neither character nor language were familiar to Egyptians. None are written, as far as known, by Egyptians, and it seems that Egyptians were also sent to the Asiatic princes to explain the letters sent in return.

P. 164. The fragment of inscription from Rukhleh seems to be new. Waddington gives two (2557 C and D), and I copied a third one in 1873. One of those first known has the date 1st October 82 A.D. (404 of the Seleucidæ), being one of the best indications of the dates of these Hermon Temples.

V.

Murray's Guide.—Proposed Identifications.

In the new "Murray's Guide" there is a list of "Identifications suggested for the first time," which should be regarded with caution. There are 15 in all, as follows :—

1. *Mahanaim* at *es Salt*. In Heth and Moab I pointed out, nine years ago, that this was the vicinity in which to seek ; but the identification with *Mukhmah*, N.E. of Es Salt, has escaped the author's notice.

2. *Mizpah Galeed* at *Sâf*. This I suggested some time ago, and it appears with a query (which I think perhaps not necessary) in "Names and Places," p. 131. *See* "Heth and Moab," New Edition, p. 181.

3. *Ramoth Gilead* at *'Ajlun* seems to me less probable than the proposed site at *Reimûn*.

4. *Kattath* at *Khashâsh* is objectionable because the two names do not present a letter in common.

5. *Mishcal* at *Rushmia* is not possible topographically, and the names have nothing in common. I regard my proposed identification at *Waisleh* as more probable.

6. *Dabbasheth* is probably the present *Dabsheh*. The name *Zebdah* has nothing in common with the Hebrew, and the site appears not to fit.

7. *Ittah Kazin* at *Kefr Kenna* is not a new suggestion at all ; and the word *Ittah* only means "as far as." Kazin should in Arabic appear as *Kadin* not as *Kenna*, which is written with *Kaf* and not with *Koph*. On account of these objections the old proposal has been dropped, and now reappears as a new one.

8. *Remmon Methoar Neah* means "Rimmon extending to Neah." It is difficult to understand how this can be regarded as a new identification. Neah is unknown, and Rimmon has always been placed at Rummaneh.

9. *Hannathon* at *el Khalladiyeh* is quite impossible topographically, and only the first letter is common to the two words. No difficulty arises in the usual identification of Hannathon at *Kefr 'Anân*.

10. *Valley of Jiphtah-el* at *W. el Melek* is much too far south. The names have no connection.

11. *Bethsaida* at *el Mes'aidieh* I proposed with hesitation some time go. The idea is, therefore, not new ; but further consideration induced me to look for the true site further north.

12. *Beten* at *Tibuin* is inappropriate topographically, and the argument which places Beten at *el Banch* is overlooked by the author.

13. *Helkath* at *Yerka* is also not new. Vandevelde proposed it a long time ago, and it appears in "Names and Places," p. 84, with a query.

14. *Achshaph* at *Kala't esh Shukîf* is not satisfactory as regards philology, since the *Caph* and the *Qaf* are confused. The site also is a Crusading Castle ("Castle of the Cliff," as the name implies) : the position is not that in which Achshaph can be supposed to have lain, and the identification which I proposed at *Kefr Yasîf* seems to me more probable.

15. *Janoah* at *Hunîn* is not in any way to be preferred to the old dentification at *Yanûh* which presents exactly the Hebrew word, whereas *Hunîn* has no connection at all with the Hebrew root.

It would seem, therefore, that out of these 15 new identifications there is not one of any real value. Several of the proposals introduce great confusion into the topography, and in a third of the cases the proposals are not new, while several others suggest that the author is not familiar with the words in the original languages and characters.

ESSAYS ON THE SECTS AND NATIONALITIES OF SYRIA AND PALESTINE.

(*Continued from April "Quarterly Statement," p.* 153.)

THE MARONITES.

By Frederick Jones Bliss, B.A.

IV.

The Ritual.

The Maronite service books contain two languages, the Syriac and the Arabic. In general, it may be said that the portions relating to the direct worship of God are in Syriac, and those looking towards the edification of the people are in Arabic. For example, the mass, the seven daily hours of prayer, and the funeral services are in Syriac, while the rites of baptism and marriage are largely in Arabic, including some of the prayers. The scriptures are always in the people's language. The Arabic, however, is written in the Syriac character, and spoken of as Karshuni. Some parts of the ritual are chanted to tunes containing minor intervals, melancholy yet pleasing in effect. In churches which do not have regular singers, the men and boys often join in the chanting.

A well-to-do church should contain from 12 to 15 different books The poorer churches may dispense with some of these. The following is a list of books :—

I. The Shîm, containing the prayers for seven times in the day, for the seven different days in the week, all in Syriac : 1. Evening prayer. 2. Sittar, an hour or two after sunset. 3. Midnight. 4. Dawn. 5. Third hour. 6. Noon. 7. Ninth hour. These prayers are said regularly in the convent churches, five times a day, the fourth being combined with the fifth, and the sixth with the seventh. The parish priests should also say them in their own houses. At the hour of prayer a priest may often be seen walking upon his flat roof, service-book in hand. Not all priests understand the literal meaning of the Syriac. In the parish churches the Shîm is used only in the evening service, which is held at the option of the priest. The gospels for the day are read on Sundays and feast-days, or if a large congregation is present. The large Shîm used in the churches is usually in manuscript. There is an old printed edition, and a new edition is now in press. The priests carry an abridged form, which is printed.

II. Book for feast-days, in two volumes, for summer and winter. They contain Syriac prayers for various hours in the day, which are substituted for those in the Shîm. In a church too poor to own these books the Shîm is read instead. Usually found in manuscript, though an edition was printed in Rome, omitting the two Marûns.

IV. Book of the Mass, in Syriac, with Arabic gospels.

V. Sinksar ; brief notices in Arabic of the apostles, prophets, martyrs, saints and councils, for every day in the year. Two or three commemorations often occur on the same day. Manuscript ; read at the evening service.

VI. Rish Quryan, Arabic selections from the prophetical passages in the Scriptures (as from the Psalms and the Epistles, as well as from the Prophets), to be read on feast-days.

VII. Epistles of St. Paul.

VIII. Gospels, printed at Rome in parallel columns, Syriac and Karshuni.

IX. Funeral services, for a Patriarch, priest, monk, man, woman, &c.

X. The Ritual for Ash Monday, Palm Sunday, the Washing of the Feet, Good Friday, Easter, Pentecost, the Feast of Mar Marûn, &c. Largely in Arabic. Printed at Rome, 1839 ; title : Rituale aliæque piæ precationes ad usum ecclesiæ Maroniticæ.

XI. Rites of baptism, churching, betrothal, marriage, extreme unction, &c. Printed at Rome in 1840 ; title : Ritus administrandi nonnulla sacram. ad usum eccl. Antiochenæ Maronitarum.

XII. Book for Lent, to be substituted for Shîm ; but not found in poorer churches. Syriac manuscript.

XIII. Book for Passion week. Syriac manuscript. In churches that can afford a copy, it is substituted for the Shîm.

XIV. Service of Deacon.

XV. Ephraimate. Chants by St. Ephraim, to be introduced into different parts of the service.

Among the church books it is very uncommon to find an ancient manuscript on vellum. The late Patriarch declared to me that there were no old books to be found in the Lebanon, owing to the frequent wars engaged in by Moslems, Metawileh, Turks, and Crusaders, when churches and convents were devasted. It is understood that he had a good private collection. I am told that it included a MS. professing to be in the handwriting of Mar Yuhanna Marûn found in the store-room of the convent of Deir Hûb, but I do not put much faith in the story. I have seen three or four illuminated gospels, the oldest of which may have been 500 years, but the chances to find such manuscripts are growing rarer every year. The Priors of monasteries have no right to sell their books. The late Monsignor Joseph David, Syriac Catholic Archbishop of Damascus, told me that during the first half of the century a rich collection of Syriac manuscripts was burned in the Greek convent of Sedanaya for fear of their falling into the hands of the Maronites.

Mass is said every day in the year except on Good Friday. Every Maronite is obliged to confess and commune at least once every year, at Easter. In some places at this time the priest goes about with a ledger, in which he writes the names of the villagers present, who must come to confession. I was told by the son of a priest that in the case of very old and holy men, communion may be taken without an antecedent confession. As to frequency of taking the Eucharist, it is impossible to make any general statement, as the people vary in this matter as do members of English churches where the sacrament is constantly celebrated. It is usually taken on the great feasts. The cup is not given to the laity. Mass is never commenced after noon, but in the case of a great feast, as of Easter, where the communicants are many, it may be prolonged till after mid-day. In the villages, even upon Sunday, the mass is usually said soon after sun rise. As an illustration of the high sacramentarian views taught, I may mention a story told by a well-known Maronite preacher of a Jew who, having received the wafer from the priest at mass, took it from his mouth, and going home threw it in the fire, whence there emerged a little child weeping. The Eucharist may be taken as early as a child understands the meaning of confession and before his confirmation.

It may be well to speak briefly of certain ceremonies occurring during the church year. On December 15th, the priest consecrates two wafers; he partakes of one, and the other he puts in the "house of the body" on the altar, to be taken out and elevated every evening from the 16th to the 24th inclusive, in celebration of the nine months of the Virgin's pregnancy. On the evening before Christmas he eats the second wafer. In some churches the nine months of pregnancy are not celebrated in this way, but by carrying the picture of the child about the church for nine days previous to Christmas. Representations of the manger, with toy images of the mother and child, the cattle, sheep, &c., are found, but

not commonly in the mountain churches, a fact probably indicating that the custom is a recent innovation.

The rites of blessing the water on the feast of the Baptism of Christ, January 6th, occurs at the beginning of the midnight mass. The Sacristan places a bowl of water on the lectern or on a table in front of the altar, and lights two candles. The priest says prayers in Syriac and Arabic, and selections are read from the Epistle to Titus and the Gospel of John, the latter selection being the account of the Woman of Samaria. The priest then takes a coal from the censer and immerses it in the bowl of water; this he does three times, in the name of each person of the Trinity respectively. He then sprinkles the people with the consecrated water. After mass the people take some of the water home in bottles. The priest also visits the houses and sprinkles them with the holy water.

The rite of blessing the candles on the Feast of the Presentation of Christ to the Temple, February 2nd, is an important one. A tray of candles is placed on the lectern. In the prayers, both Arabic and Syriac, constant reference is made to the Light of the World. The account of the creation of the sun and moon is read, also the account of the golden candlesticks made by Moses, also the description of the New Jerusalem which needs no light, but that which the Lord gives, and finally the passage in Ephesians v, 8–14, where they are exhorted to walk as children of Light. After blessing the candles and sprinkling them with holy water, the priest distributes these among the people, who must make an offering of money in return. The value of the candles for believers is held to be great; they ward off sickness and evil spirits, especially at the time of death. Sometimes they are burned in the booth where silk-worms are being raised.

On the Feast of Mar Marûn, February 9th, the picture of the Saint is placed on the altar, and during the rite it is borne around the church three times, in a procession. After mass the people come forward to kiss the picture. Mar Marûn is commemorated also on the second Sunday of every month. On the third Sunday of every month there is an especial service in connection with the Society of the Scapular of Our Lady of Mount Carmel.

In the Maronite church, Lent begins with Ash Monday. On Saturday evening the Sacristan takes from the Sacristy the dried olive branches preserved from the Palm Sunday of the previous year, and reduces them to ashes by burning them in a brazier. On Monday the ashes are placed in a tray on the lectern, and before the mass a special service is read, with prayers in Syriac and Arabic. It is directed that the Psalms should be sung to a "sad tune." The priest sprinkles the ashes with holy water, and incenses them from the censer, praying for a blessing upon them. Then the people advance one by one, and the priest makes the sign of the cross on their foreheads with the ashes saying: "Remember, O man, that dust thou art and that to dust thou shalt return." At the end of the rite the priest reminds the people that the Roman church has ordained that believers, receiving this rite with real

repentance, shall obtain forgiveness for 40 years; referring undoubtedly to remittance of purgatorial punishments.

On every Friday in Lent a special service commemorative of the death of Christ is read.

We may mention here a general custom in which the Maronites share. On the Saturday before Palm Sunday the school boys go from house to house carrying a long roll of paper, on which has been written by the teacher a poetical account of the raising of Lazarus. Two boys unroll the paper, another lies on the ground under it and the rest chant the story. When they reach the point where Lazarus comes forth, the boy gets up and the paper is rolled up again. A collection is made of money and eggs, &c., part of which goes to the teacher.

On Palm Sunday a tray of olive twigs is placed on the lectern, and a special service takes place. After the blessing of the twigs or branches, there is a procession, in which boys sometimes bear the branches; the singers introduce in the chants the words "Hosanna to the Son of David." The service is long and contains much scripture. After mass the people take home the twigs for a blessing. I am told that it was an ancient practice to erect an olive tree in the church, but that it was given up as there arose some unseemly disturbance when the people pulled it to pieces. The Greeks celebrate Palm Sunday in a somewhat similar manner, but do not go through with the ceremony of the ashes on Ash Monday.

During Passion week the pictures are draped in the Maronite churches, and a black curtain is hung over the altar with models sewn upon it in white cotton—representations of the Cross, the crown of thorns, the nails, hammer, pincers, the scourge of ropes, the striking hand, the ewer and basin used by Pilate, the cock, the torch, a sword, the sun, moon, and stars, the sponge, and the spear.

On Thursday of Passion week occurs the rite of washing the Disciples' feet. In the Greek church in Syria the Patriarch performs this at Jerusalem, but the priests do not observe it while in the Maronite church the ceremony is observed in every village. I witnessed it recently in the cathedral church of Beirût, which was so densely thronged with spectators that Turkish soldiers were on guard. The high altar was draped, but over the right side altar was erected a lofty canopy, or framework hung with white muslin, trimmed with pink ribbons, and decorated with candles and flowers, both real and artificial. In this booth was kept the wafer which had been consecrated that morning, that on Good Friday, when no mass is said, the priest might communicate. In the village of Hammana I was told that this was not the custom.

A platform was built out into the nave below the pulpit. It was carpeted, and on it were placed twelve chairs, six facing six, on which sat twelve surpliced boys. The Bishop in his ordinary dress mounted the platform, and there was robed in canonicals, with mitre and staff and took his seat at the end. In the pulpit a priest and deacon chanted the account in the Gospel of John. When they came to the words,

"He arose from supper," the Bishop arose, was disrobed, and was girt about with a towel; attendants carried a ewer, basin, and an embroidered towel, the Bishop then washed the heel of the right foot of three boys, kissing the foot, while they kissed his hand. He then was robed again and took his seat, while some chanting went on. The readers began again, and the Bishop proceeded to wash the feet of three other boys, as before. This was repeated a third and a fourth time; except that after washing the feet of two of the last three boys, when the reader reached the words, "Then cometh he to Simon Peter, and Peter said unto him:" the remaining boy rose and read from a paper, "Lord, dost thou wash my feet?" The Bishop read the reply, and when the conversation between Jesus and Peter was completed, the Bishop finished the washing. There was no attempt at dramatic representation. In the villages the ceremony is conducted in a simple manner, though the rite is the same. The service book, however, gives an alternative rite for small churches. After the ceremony is over the boy who is supposed to have represented Judas is sometimes mocked and beaten by his comrades, in a spirit of mischief.

On the same Thursday the Patriarch, with two or three Bishops, at his Seat, consecrates the oil of baptism, oil for extreme unction, and the Meirûn (oil containing balsam) for ordination and confirmation, to be used also in the rite of baptism. These three kinds of oil are distributed by the Bishops among all the Maronite churches for use during the year. Oil remaining from the year before is burned.

The rite of the adoration of the cross, commonly called the burial, is celebrated on Good Fridays. In the Book of Ritual it is appointed before noon, but when I saw it it took place about 4 p.m. In the centre of the church there was erected a small platform, upon which was placed a short, deep bier, hung with white lace and pink cambric. As the people came in they threw bunches of flowers into the bier. In front of the altar there was a wooden stand, with steps, on which was erected a cross, with a coloured plaster figure of the Saviour fastened to it. This figure, which was hardly a yard long, was covered with crape. On either side there was a candle, one of them veiled in crape. A round table covered with service books stood just outside the altar rails at one side; the priest and laymen both read from the books on the table, the former standing within and the latter without the rails. The priest wore no robes but put on the stole at times. The service was long and impressive, including many melancholy chants and selections from the scriptures. After it had continued for some time the candles around the bier were lighted, also the one candle near the cross and the candles under an altar at the side of the church, where a place decorated with flowers had been prepared to receive the figure. The priest unfastened the figure from the cross, and bearing it into the body of the church placed it in the bier, covering it up with flowers. Four men in surplices took up the bier and carried it around the church three times, preceded by the priest walking backward and swinging the censer, and followed by a procession

of men and boys chanting and bearing candles. When they put down the bier the priest walked around it, prostrating himself on each side He then took a large silver crucifix and held it up for the people to kiss, repeating as they pressed forward the Arabic salutation for feast days, equivalent to "Many happy returns of the day," literally, "Every year may you be at peace." As the people left the church they stopped before a small table at which was seated the wakeel of the church with a plate before him containing a mixture of oil and dough, into which he dipped a candle, making the sign of the cross on the forehead of those who dropped a piece of money on the table. Later, the crucifix was placed in the "tomb" I have mentioned at the side of the church. In the village services the ceremony is less elaborate ; a simple crucifix is placed on a black cloth resting on a chair, the cloth taking the place of the bier. In the Greek church, which allows no image, a cloth on which is imprinted the figure of the Saviour is carried by four men. I have seen people bend and pass under the cloth as the procession went around the church.

No bells should be rung on Thursday, Friday, or Saturday till noon.

The services on Easter begin immediately after midnight. The altars are decorated and the pictures undraped. The priest wears his robes and, after some prayers, approaches the tomb accompanied by deacons and people bearing candles. He incenses the tomb three times, and calls out in Syriac three times : "Christ who rose from the house of the dead has had mercy on us." He then takes out the figure or crucifix, covers it with a white veil, and carries it in front of his face, while the people follow in grand procession singing and chanting. After all have kissed the cross the flowers are distributed to the people "for a blessing." Easter Sunday and Monday are celebrated universally. The ecclesiastics receive visitors, who bring with them gifts. The people also visit each other, and come out in new clothes. The children amuse themselves by colouring eggs, which they strike together in a sort of game. Tuesday is also a feast, but the people are not required to abstain from labour as on Monday.

Between Easter and Pentecost the people do not kneel in the churches, nor prostrate themselves, as a sign that they are "risen in Christ." Accordingly, on the latter feast, on which they return to their kneeling, there is a special rite, divided into three parts, in honour of the Three Persons in the Godhead respectively. In each part there are prayers and readings from the Psalms, the Acts or Epistles, and the Gospel of St. John. At the end of the first part the priest says in a loud voice, turning to the people, "Kneel before the Lord upon the left knee." The people obey, and after a prayer the priest says : "Rise in the strength of God and worship Him who rides upon the sunsettings,"[1] &c. In the second part they kneel upon the right knee, and lastly upon both knees together. The language of the rite is certainly very impressive.

The Feast of Corpus Christi is observed under the Arabic name of

[1] Probably a rendering of ערבות in Ps. lxviii

The Thursday of the Body. Occasionally there is a procession bearing the Host from church to church.

On the Feast of St. Peter and St. Paul there is a procession, and a basin of water is blessed and placed on the lectern, from which after the service the people fill small bottles of water to take to their homes.

The rite of baptism is largely in Arabic. Pure water, warm or cold, is to be used. It is to be poured on the head in three handsful, and not sprinkled except in cases of extreme necessity ; in such exceptional cases the water must trickle down the face. The child should be either entirely undressed and placed in the font, or else have its head bared, in which case it is held over the font. When there is fear of death a midwife may baptise, but she is to use the formula : "I baptise thee," &c., and not the words "I *seal* thee," &c. (The Arabic word رشم is obsolete ; it originally means to seal or stamp, as wheat when measured.) Nothing but holy water should be used except in extreme cases. The god-parents should be seven years of age at least. It is required that the names of the god-parents, the child, and the priest officiating, should be registered in the church book. One god-parent is sufficient, but there may be two.

The priest meets the child with its god-parents at the door of the church, and after a prayer he asks the child's name ; when this is given, he asks what is the reward of faithfulness ; the answer is : "Life everlasting." The priest then says : "If thou wouldest lay hold on life everlasting keep the Commandments, that thou shouldest love the Lord thy God with all," &c., &c. The priest then says to the child : "May the evil spirit go out of thee, that the righteous spirit of holiness may dwell in thee." Here follows a direct adjuration to the evil spirit. He then blows in four corners of the child's face, as a sign of the cross. Then placing his hand on the child's head he prays for spiritual blessing. Here follows the blessing of the salt ; the priest then puts a little in the mouth of the child, saying : "Receive, O child, this salt of wisdom, that it may benefit thee in the everlasting life." Then follows another adjuration to the evil spirit : "I adjure thee, thou evil, accursed spirit, in the name of the Father, and of the Son, and of the Holy Ghost, that thou depart far from this thy servant, in the strength of the Lord Christ, by which He walked on the waves of the sea as if He were on dry land, and in the strength by which He put forth His hand and saved Peter when he was about to sink."

They then enter the church, the priest bearing the child. After some prayers, the repetition of the Lord's Prayer and of the Nicene Creed by the god-parents, and another adjuration to the evil spirit to depart and give place to the Holy Ghost, the priest places his hand upon the nose of the child, saying : "Open, O nostrils, and breathe in the sweet odours of God, and flee thou accursed one, baffled because the judgment of God is nigh." Here the priest approaches the font, pouring water in it, and lights a candle. He adjures the evil spirit to depart from the water "that it may be a fountain causing eternal life." After several responsive

entences, he drops three drops of tallow into the water, saying: "In this water man is regenerated by a new birth, and becomes the first born of Heaven . . . . for all are born from the womb of the church, the spiritual mother, by a new birth. Drive out, O Lord, every evil spirit and every Satanic wile from this water that nothing opposed to the mystery of baptism may have influence in it, now and for ever." During the blessing of the water the priest blows upon it, and then plunges a lighted candle into it, saying when he takes it out: "May the power of the Holy Ghost enter the water to blot out all sins . . . . . that whoever is bathed in it may be born a new child, pure, purified by the grace of the Holy Trinity." He then puts in the water some of the oil of baptism, praying that it may be united to the water; and also some of the Meirûn. After asking whether the child renounces Satan and all his works, he anoints his breast and shoulders with the oil. The child is then questioned as to his belief, the god-parents answering for him. The baptism is then performed, the priest pouring a handful on the head of the child in the name of each Person of the Trinity. The child is then returned to the god-parent, and the priest, putting his thumb in the Meirûn, anoints him on the forehead, praying that he may be anointed by the Meirûn of Salvation. The priest then washes the child, puts a white veil upon him, and gives him a light, all with appropriate prayers, referring to the symbolic meaning. The ceremony closes with a procession, and with prayers in Syriac and Arabic.

Once, in speaking with a Maronite peasant about the frequent ablutions of the Moslems, I remarked on the fact that the Christians have no such ceremonies. "No," he replied, "the Moslems were never cleansed in baptism as we are, and are always trying to get rid of their natural evil odour by washing themselves all over, but without success. Thank God, I have had no need of a bath since I was baptised." I heard this physical theory of baptism advanced some time later, in another place, by a Greek Catholic, from which it might be inferred that it is common among the peasantry.

As marriage customs and festivities are the same with all Christian sects in Syria, it will be sufficient to give a brief outline of the Maronite service.

The priest is commanded to inquire if there be any impediment to the marriage. In computing the degree of relationship, the Eastern Church counts all the persons up to the common ancestor. For example, first cousins are said to be related in the fourth degree; an uncle and his niece, in the third degree; children of cousins, in the sixth degree. The Eastern Church forbids marriage within the seventh degree. According to the Council of Lebanon, the Maronites are forbidden to marry within the eighth degree, Eastern computation; in the fourth degree, Lat computation. Licence may be obtained from the Patriarch, through the Bishops, for a fee which varies according to the nearness of relationship; in this way first cousins may marry.

The marriage service begins with the blessing of the rings by the priest;

gives the bridegroom his ring, saying, "May the right hand of the Lord be given to thee with grace," and does the same to the bride. Then follows the blessing of the crowns or rosaries which may be substituted. A passage is read from Ephesians (v. 22-33) and from Matthew (xix., 3-6), followed by prayers, in which the Lord is asked to bless the crowns to the groom with the blessing with which He blessed Abram and Sara, Isaac and Rebecca, Jacob and Rachel. The pair are then crowned with the prayer that they may receive the crown of righteousness. After this the priest puts a crown upon the head of the groomsman, or, if he be married in his hand. The bridesmaid is also crowned. Here follows an exhortation to bride and groom; the latter is urged to love his wife, not to insult her, not to strike her or curse her relatives; the bride is urged not to disobey her husband, unless he commands her to sin; not to tell his secrets, not to come between him and his relations, or to answer him with bitter words. The priest then joins their right hands and pronounces the marriage formula in the name of the Trinity. The Lord is prayed to send His blessing on the marriage, as He sent it to Tobias and Sara by the presence of Raphael. After various prayers and responses, in which the marriage at Cana is mentioned, the priest looses the hands of the pair and takes off the crowns, saying, "Thou Who didst wear the crown of thorns, and didst take from us the thorns of sin, remove from this pair these perishable crowns, and put upon them the crown that never perishes. Amen." The ceremony closes with another exhortation and a prayer.

The rite of extreme unction is in Arabic, and is administered when the sick is supposed to be at the point of death. Should he linger on, remaining in bed, and then die, the rite is not repeated. If he recovers, so that he is able to rise, and then later has a relapse and dies, the rite is repeated before his death. The priest anoints the eyes with the sacred oil, praying that the sins of sight may be forgiven, and proceeds to anoint the ears, nostrils, mouth, hands, and feet. Reference is made in the final prayer to the commands of the Apostle James, to pray over the sick, anointing them with oil, and the priest prays the Lord to restore the sick man to health.

The funeral services are in Syriac. If the deceased be a member of the Brotherhood of the Immaculate Conception, the Litany of the Virgin follows, while all hold candles. At a Maronite funeral recently attended, there were several Greek Catholic priests standing in the chancel, but at one side. The corpse was placed on a bier, and was not transferred to the coffin till the service closed. Every priest who attends a funeral receives money, sometimes as much as 4*s*., to say mass for the dead. On the evening after a death, if a night pass before the funeral, the priest visits the house with the censer, and incenses it, with prayers; this ceremony is repeated after the funeral.

Funeral customs are very much the same among all sects, but, at the risk of repetition, I may mention a few. A prominent Maronite recently died; his mare was richly caparisoned, her eyes were stained with kohl, salt was rubbed in to produce tears, and two swords were crossed above

the saddle. She was lead out with great lamentation. A bier was filled with iron, to make it heavy, and then had placed upon it the clothes of of the deceased, and his watch. As each delegation of mourners came in from the villages it was met by four strong men bearing the bier aloft; the strongest young fellows of the visiting party would then transfer the bier to their own hands and carry it about, as a sort of trial of strength, reminding one of ancient funeral games. I am told that there are gypsies who attend funerals of the great Sheikhs, and mourn for a wage. The sword dance at a funeral is becoming rare, but I came across it once in front of a peasant's house. There was a procession, led by a man carrying a crucifix, elevated on a pole; behind him came two young men, each carrying a sword in one hand and a small shield in the other, dancing in a slow and stately measure, circling and lifting the leg, while he waved the sword, occasionally striking it upon the shield. Behind them came two men bearing swords upright in front of the breast, and walking in front of the coffin, which was borne high in the air by four men.

The first Sunday after the death of a person, the family boil wheat and take it to the church to be blessed by the priest; it is then placed a the door for the people to take a handful as they go out. This wheat is commonly spoken of as the "mercy" of the dead person. The fruit of pomegranate is also used. Sometimes the funeral service is repeated on the anniversary of a death. The cemeteries are, as a rule, neglected, for they are hardly ever visited except at an interment, especially in the mountains, where headstones with epitaphs are not common; the coffins are often laid in vaults.

Before her closer union with Rome, the Maronite Church followed the Eastern custom of making confirmation synchronous with baptism, but she now follows the mother church. Episcopal visits to the villages are rare, and at such times all the children between the ages of six and twelve who have not received the rite before are confirmed. After a short service the Bishop anoints the boys' foreheads with the Meirûn, making the sign of the cross in the name of the Trinity, and giving him a slap on the cheek. Confession must be made and the Sacrament taken immediately before Confirmation. As a matter of fact, not all Maronites are confirmed.

In studying the Maronite ritual the reader is impressed with its frequent beauty. The language is often rich and solemn. I have not examined the Shîm and the Book of the Mass, but in the services which I have here noticed the Adoration of the Virgin and her Intercession are rarely mentioned, although Mariolatry is very strong among the people. The Litany of Mary, in which she is invoked under forty-six names, has been borrowed from the Roman Church and translated into Arabic. The various services abound in Scripture; a Maronite attending the majority of services during the year must hear the most profitable passages from the Psalms, Prophets, historical books, Gospels, and Epistles in his own Arabic tongue. In view of this, one is puzzled at first to explain the

ignorance of the Scriptures prevailing among the common people. It is owing, however, to various causes: first, the reading is not with expression, but performed in a sing-song, perfunctory manner; second, it is without commentary or exposition, as a rule; and, third, the Scriptures are in the literary language, which contains many words which the women and the simpler peasants do not understand. This objection obtains in the case of the Arabic version used by the Protestants, among whom, however, preaching with explanation and illustration is constant. As we have seen, the ritual abounds in forms and ceremonies, but in almost every case the symbolic meaning is explained in connection with the act. During the 18th century the ritual was revised and altered by various Maronite Prelates, notably by the Bishop Germanus Farhat. I hope some time to compare carefully the Maronite ritual with the Jacobite, to which it bears a resemblance.

(*To be continued.*)

BAROMETRICAL DETERMINATIONS OF HEIGHTS IN LEBANON, ANTI-LEBANON, AND ON HERMON.

I.

From Observations with Mercurial Barometer.

The following altitudes are partly a redetermination of, and partly a supplement to the list published by me in the *Quarterly Statement* for April, 1891. The two sets of results are directly comparable, as all observations at the upper stations were made by myself, and all those at Beirut were made under my direction, the instruments were the same, and the reductions were made according to the same set of tables. This year, however, hourly observations were taken at Beirut.

The instruments used were as follows: at the observatory in Beirut, which is 111 feet above sea level, barometer, Browning, No. 244, and thermometer, Browning, No. 66,810; at upper station, barometer, Casella, No. 738, and sling thermometer by Casella, broken July 28th. All readings are corrected for instrumental errors. The reductions have been made according to the tables prepared by Guyot (Smithsonian Tables, 1884, pp. 371-386).

Hourly observations taken for a few days in Damascus indicate that the calculated altitudes vary from a minimum in the early morning to a maximum at two or three o'clock in the afternoon Hence the hour at which the determination was made becomes an important factor.

I have reason to believe that the same is true at all stations not on the seaward face of Lebanon.

—	Date.	Hour.	Beirût.			Upper Station.			Altitude in feet.	Previous determination.
			Barom.	Att.	Ext.	Barom.	Att.	Ext.		
1. Raifûn	July 14, 15, 1891 ...	2 obs.	29·862	82·5	81·0	26·488	72·9	73·0	3,541	
2. Afka	,, 15, ,, ...	5¼ p.m.	29·840	83·0	84·0	26·242	78·8	80·0	3,853	3,615
3. 'Ain el-Bârideh, Arḍ Lukluk ...	,, 16, ,, ...	4¾ p.m.	29·832	84·0	84·6	23·900	69·1	67·0	6,427	
4. Cedars, top of grove	,, 17-20, ,, ...	5 obs.	29·768	82·9	81·2	23·819	62·0	60·3	6,409	6,420
5. Jebel Makmal	,, 18, ,, ...	2 p.m.	29·806	83·4	83·5	20 913	71·6	61·5	10,207	10,227
6. Kurnat es-Sauda	,, 18, ,, ...	5 p m.	29·790	83·0	83·5	20·836	58·3	55·0	10,199	10,218
7. Ṣîr, above village	,, 20, 21, ,, ...	2 obs.	29·740	84·2	83·3	26·739	73·5	71·5	3,151	
8. Râs el-'Ain, Merj Ḥîn	,, 21, 22, ,, ...	2 obs.	29·828	86·0	85·0	24·455	64·6	62·5	5,746	
9. Rijâl el-'Asharah	,, 22, ,, ...	12 m.	29·876	85·4	87·6	21·406	63·3	55·0	9·542	
10. Funaidik	,, 23, ,, ...	2 obs.	29·830	85·7	86·0	26·203	77·3	73·5	3,843	
11. El-Hurmul, above village	,, 25, ,, ...	7½ a.m.	29·750	82·0	84·3	27·282	82·6	81·0	2,639	
12. Râs Ba'albek	,, 25-27, ,, ...	2 obs.	29·703	84·6	83·3	26·619	76·6	76·5	3,269	
13. Ḥalîmat Kabu	,, 27, ,, ...	4¾ p.m.	29·670	86·1	87·8	22·374	72·5	70·0	8,247	8,045
14. 'Ain Kabu	,, 27, ,, ...	7¼ p.m.	29·666	85·0	83·0	23·874	69·8	67·5	6,309	
15. Ḥalîmat Ḳârah	,, 28, ,, ...	10½ a.m.	29·708	84·1	87·0	22·472	65·7	65·0	8,102	
16. Juraijîr	,, 28, ,, ...	6 p.m.	29·712	85·5	84·0	24·960	75·3	75·0	5,138	
17. Tal 'at Mûsa	,, 30, ,, ...	2½ p.m.	29·810	85·0	86·5	22·072	69·5	69·5	8,755	
18. Yabrûd, fountain	,, 30, ,, ...	7 p.m.	29·804	85·0	83·0	25·484	70·5	70·0	4,590	4,586
19. Rankûs, ruin ab. vill.	,, 31, ,, ...	7½ p m.	29·802	85·0	83·0	24·756	72·3	72·0	5,435	
20. Blûdân	August 3, ,, ...	2 obs.	29·806	84·7	85·5	25·071	80·1	79·2	5.137	5,158
21. Damascus	,, 4-11, ,, ...	16 obs.	29·739	85·6	86·6	27·561	81·0	81·0	2,354	2,337
22. Damascus	March 30, April 5, 1891	18 obs.	...	...	...	...	...	...	2,285	
23. Rakhlah	August 11-13, 1891 ...	3 obs.	29·845	84·5	82·8	25·270	69·9	69·4	4.864	
24. Nashabat en-Nusûr	,, 15, 1891 ...	12½ p.m.	29·797	86·0	87·0	22·864	64·8	64·0	7,678	
25. 'Ain esh-Sha'rah	,, 16, ,, ...	6 p.m.	29·810	85·5	85·0	25·572	77·3	77·0	4,540	
26. 'Irnah	,, 17, 18, 1891 ...	2 obs.	29·829	83·7	84·5	25·455	76·7	76·0	4,580	
27. Hermon, Ḳaṣr 'Antar	,, 18, 1891 ...	2 obs.	29·828	86·3	88·6	21·551	64·4	64·0	9,432	
28. Hermon, north peak of summit	,, 18, ,, ...	4½ p.m.	29·828	86·7	88·1	21·552	61·3	61·0	9,396	
29. 'Ain el-Jauzah	,, 20, ,, ...	8 a.m.	29·880	83·0	83·0	25·698	69·3	69·0	4,416	
30. 'Ain Ḳanyah	,, 21, ,, ...	8¼ a.m.	29·906	82·1	84·4	26·876	67·8	67·5	3,256	
31. Zahr el-Aḥmar, fount	,, 21, 22, 1891 ...	2 obs.	29·892	84·0	83·7	26·600	73·0	72·7	3,456	
32. Judeidat Merj 'Ayûn	March 27, 28, ,, ...	2 obs.	30·001	65·3	62·9	27·535	58·9	54·6	2,490	
33. Rasheiya	,, 29, ,, ...	2 obs.	30·022	65·1	64·0	25·998	55·3	55·2	4,088	

Notes.

In these notes, the numbers refer to the list above. Reference is made to the following books and maps:—

1. "P.E.F." Map published by the Palestine Exploration Fund.
2. "G.P.S." Map published in the "Zeitschrift des deutschen Palästina-Vereins," Bd. XIII.
3. Mansell, Admiralty Chart of the Coast of Syria.
4. Burton and Drake, "Unexplored Syria," London, Tinsley Brothers, 1872.
5. Carte du Liban, published by the French Government in 1862.
6. Blanckenhorn, Karte von Nord-Syrien, Berlin, 1891, R. Friedländer & Sohn.
7. Stübel, "Dschebel Hauran," "Zeitschrift des deutschen Palästina-Vereins," Bd. XII.
8. Diener, quoted in No. 7.
9. Baedecker, "Handbook for Palestine and Syria," Leipsic, 1876.
10. Van der Velde, Karte von Palästina, German Edition of Map of the Holy Land, Gotha, 1866, Justus Purthes.

4. The Cedars. French map, 1,925 metres = 6,316 feet. Mansell, 6,700. Burton, whose determination, 7,368, is confessedly untrustworthy, quotes other authorities as follows: Scott, 6,315; Russeger, 6,400; V. Schubert, 6,264; V. Wildenbruch, 5,898.

5. Jebel Makmal. Burton, 9,998; Mansell, 9,996.

6. Ḳurnat es-Sauda. Under the name of Jebel Timarun, Burton gives 10,533; French map, Dahr el-Khotib, 3,063 metres = 10,049 feet; Mansell, Dhor el-Khodib, 10,061; Van der Velde, Dhor-el-Khodîb, 10,051. It is certain that all these names refer to the same peak.

Ẓahr el-Ḳadîb is the name of the whole mass of mountains of which Ḳurnat es-Sauda, Makmal, Fam el-Mizrâb, 'Ish el-Ghurâb, Rijâl el-'Asharah, and Ḳurnat el-Ḳal'ah are the principal peaks.

8. Merj Ḥîn. My observations were made at the fountain, Râs el-'Ain, at the southern end of the plain. The French map gives 1,700 metres = 5,577 feet; Drake, 5,625; Van der Velde, 5,600. 'Ain el-Jâmi', at the northern end of the plain, is 5,860, by aneroid.

9–10. Funaidiḳ. Drake, 5,705; plainly an error.

11. El-Hurmul. Blanckenhorn, 662 metres, 2,172 feet.

13. Ḥalîmat Ḳabu. The difference in my results is noteworthy, as I have no reason to question the accuracy of either observation. The explanation is probably to be found in the abnormal meteorological conditions at the time of my ascent of the mountain in 1890. Although in the middle of the dry season, when rain seldom falls in Syria, a heavy local storm was raging over the high peaks to the south of us, and showers were falling on all sides of us. Doubtless this caused a local lowering of temperature, and probably also a local variation of pressure, both of which

would affect the resulting altitude. Burton gives 8,257. Van der Velde gives for highest point of Northern Anti-Lebanon, 5,000 !

15. Ḥalîmat Ḳârah. The aneroid gives the height of Ḥalîmat Kurrais, the peak immediately to the west of Ḥalîmat Ḳârah, as 8,125. Ḥalîmat Ḳârah is also called Sudr Sheikh 'Ali, and Burton heard the name Ḥalîmat Ḳar'â applied to it. Last year our guide from the town of Ḳârah named the three Ḥalaïm, Ḳabu, Ḳârah, and Ḳar'â respectively ; this year the shepherds on the mountains themselves named them Ḳabu, Ḳârah, and Ḳurrais, and declared that they did not know the name Ḳar'â. That part of Anti-Lebanon is collectively known as Jebel Ḳârah.

17. Ṭal'at Mûsa. Burton, 8,721.

18. Yabrûd. Drake, 4,775.

20. Blûdân. P.E.F., 5,140. Van der Velde, 4,842.

21. Damascus. These are the means of three sets of very inconsistent results ; I do not consider any of them are satisfactory. Other determinations are—P.E.F., 2,362 ; G.P.S., 691 metres = 2,266 feet ; French map, 697 metres = 2,286 ; Van der Velde, 2,401.

22. Rakhlah. P.E.F., 4,797 ; Baedecker, 4,783 ; G.P.S., 1,527 metres = 5,009 feet.

25. 'Irnah. P.E.F., 4,560.

26. Hermon, Ḳaṣr 'Antar. P.E.F., 9,166 ; Mansell, 9,053 ; Diener, 2,773 metres = 9,097 feet ; French map, 2,860 metres = 9,383 feet ; Van der Velde, 9,376.

29. 'Ain Ḳanyah. P.E.F., 3,050.

32. Rasheiya. P.E.F., 4,100.

II.

Observations with Aneroid Barometers.

The following list of altitudes has been calculated from observations made by the writer during July and August, 1891, with exceptions noted. The aneroid readings have been corrected in accordance with comparisons made with the mercurial barometer within 24 hours both before and after the observation. The temperature of the air was determined, as often as possible, by the use of a small sling thermometer, and in all cases the calculations include correction for temperature, either observed or approximate. The barometer readings for sea level were made at the observatory of the Syrian Protestant College, Beirut (111 feet above sea level), where hourly readings were taken for the purpose.

The references are the same as in I., "W" referring to my previous determination as published in the *Quarterly Statement* for April, 1891.

I.—*Lebanon.*

1. Zûḳ Muṣbaḥ	494	
2. Ja'îta	1,190	
3. Suhaileh	1,700	
4. 'Ajalṭûn....	2,905	
5. Faiṭrûn	4,022	
6. 'Ain Libnaiyah....	4,400	
7. Beit el-Aswad	4,572	
8. Naba' el-Ḥadîd	5,227	
9. Muneiṭarah	4,041	
10. 'Âḳûrah [fountain]	4,581	French, 1,400 metres or 4,593 feet; Van der Velde, 4,551; W. [ab. vill.] 4,638.
11. Naba' Rûeis, near 'Âḳûrah	4,207	
12. Ḳarn 'Âḳûrah	6,977	
13. Bîr 'Arrûmah	6,446	
14. Sahel Rahwah	7,119	
15. Peak to north of Sahel Rahwah	7,562	
16. Peak west of Fam edh-Dhîb	7,846	
17. Fam edh-Dhîb	8,671	Mansell, 9,209.
18. Mashra'at en-Nâḥ	8,992	
19. Pass on road to Ba'albek	8,531	Burton, 8,351; Baedecker, 7,703; Van der Velde, 7,624; W., 8,530.
20. Sahel Sha'b Arnûb	7,740	
21. Pass on Ras Ba'albek road	8,831	
22. Peak south of Jebel Muskîyah	9,976	Burton, 10,018; Baedecker, 10,050; W., 9,994.
23. Jebel Muskîyah	10,106	Burton, 10,131; Baedecker, 10,037; W., 10,142.
24. 'Ish el-Ghurâb	10,065	
25. Peak west of 'Ish el-Ghurâb	10,088	
26. Wâṭi Fam el-Mizrâb	9,134	
27. Jebel Fam el-Mizrâb	9,874	Van der Velde, 9,135.
28. 'Ain el-Jûrah	6,920	
29. Wâdy west of Ḳurnat es-Sauda	8,931	
30. Sahel Samârah	8,357	
31. Foot of Wâdy Najâṣ	4,935	
32. Plateau of Baḳa'safrîn	4,091	

33.	Naba' Mashûr, E. of Sîr	3,663	
34.	Naba' es-Sikkar, N.E. of Sîr	5,618	
35.	Merj-Ibrîsah	6,494	
36.	'Ain Baidar Beit el-Ûla	6,495	
37.	Merj eṭ-Ṭawîl	6,405	
38.	Birkat Buṣwaiyah	7,058	
39.	Buṣwaiyah	7,368	
40.	Ḳurnat el-Ḳal'ah	9,064	
41.	Peak West of Ḳurnat el-Ḳal'ah....	9,117	[Dr. Post.]
42.	Wady 'Ain el-Baiḍa	7,338	
43.	S.W. shoulder of Jebel el-Abiaḍ	5,931	
44.	'Ain Manshal, S. face of el-Abiaḍ	6,496	
45.	Jebel el-Abiaḍ, or 'Akkâr	7,384	Blanckenhorn, 2,127m., or 6,979 feet; Mansell, 6,980.
46.	Watershed at head of Wâdy Khâlid	6,774	
47.	'Ain el-Jâmi', Merj-Ilîn	5,860	Southern end of Merj is 5,746.
48.	Râs el 'Âṣi	2,250	Van der Velde, 3,000.
49.	Middle of plain between el-Hurmul and Râs Ba'albek	2,580	
50.	Foot of Wâdy Ibrîsah, near el-Hurmul ..	3,060	[Dr. Post].
51.	Naba' Ṣunnîn	5,400	August, 1890.
52.	Bdîmân	4,650	
53.	Ḥamnâna	3,575	
54.	Nabaṭîyah	1,363	March, 1891.
55.	Watershed East of Nabaṭîyah on road to Judeidah	1,710	
56.	Jisr el-Khardali	737	P.E.F., 700.

II.—*Anti-Lebanon.*

57.	Plateau East of Râs Ba'albek	4,100	
58.	Ḥalîmat Ḳabr Isma'în	6,880	[Dr. Post].
59.	Ḥalîmat Ḳurrais	8,125	
60.	'Ain Washl Ḳurrais	7,236	Burton, 7,324.
61.	Foot of Wâdy Barad	6,181	
62.	Siḥl	4,892	

63.	Jebel Marmarûn	5,750	
64.	Mu'arrat el-Bâsh-Kurdi	5,632	Burton, 5,688.
65.	Râs er-Rafî'	8,330	
66.	'Ain Wâdy 'Ayûn	7,456	
67.	Râs el'-Ain, near Yabrûd	4,641	
68.	Jubbah	5,468	G. P. S., 1,738 metres, or 5,702 feet.
69.	'Asâl el-Ward	5,536	G. P. S., 1,723, 5,652; Burton, 5,553; W., 5,255.
70.	Râs el-'Ain	5,536	
71.	'Ain Sa'annûr	5,712	
72.	Bîr 'Akah	5,712	
73.	Ṣaidanâya	4,494	[Dr. Post].
74.	Highest point of road, East of Blûdân	6,467	
75.	Naba' Beisân	6,213	
76.	'Ain Funduḳ	3,745	
77.	Jisr et-Takîyah	3,587	P.E.F., 3,688.
78.	Neby Hâbîl	4,170	
79.	Dîmâs, above village	3,732	F., G.P.S., and P.E.F., 3,510; Van der Velde, 3,514.
80.	Dîmâs Station	3,196	Baedecker, 3,235.
81.	El-Hâmah	2,612	G.P.S., 2,428.
82.	El-Mazzah	2,492	
83.	Highest point of Ḳala-bât-el-Mazzah on road to Rasheiya	3,760	
84.	Sahel 'Antar	3,300	
85.	'Ain Sûjah	3,130	March, 1891.

III.—*Mount Hermon and Neighbourhood.*

86.	Khurbat Kafr Ḳûḳ	3,575	
87.	Ravine below Naba' ul-Ḳal'ah	4,110	
88.	Birkat Zûzah	4,535	Three observations, one in March, 1891.
89.	Peak S.W. of Rakhlah	5,862	
90.	Burḳush	5,405	P.E.F., and G.P.S., 5,200.
91.	Head of Wâdy 'Awsaj	5,090	
92.	Kafr Ḳûḳ, top of village	4,053	P.E.F., 3,860.
93.	Lake, water's edge	3,898	P.E.F., 3,680; French, 3,510.
94.	Merj et-Tût	4,355	
95.	Munṭâr Khallat'Anânah	5,644	
96.	Birkat el-Maḥfûrah	5,040	
97.	Watershed to south of same	5,261	

98.	Sahel Sammûḳa	5,078	Two observations.
99.	Birkat el-Yâbisah	4,053	„ „
100.	Naba' Skein	3,670	
101.	Head of el-Mizrâb	5,510	March, 1891.
102.	'Aiḥah	4,334	March, 1891. P.E.F., 3,750; G.P.S., 4,367.
103.	Pass south of Nashabat en-Nusûr	6,980	
104.	'Ain en-Naḥâs	5,572	P.E.F., 5,620.
105.	Buḳa'sam	5,047	
106.	River (Nahr Buḥairân)	3,973	
107.	Hill above 'Ain esh-Sha'rah	4,883	
108.	Jebel Ḳairû'	6,453	
109.	Pass south of same	6,037	
110.	'Ain el-Mizrabaiyah	5,908	
111.	'Ain el-Manzilah	6,080	
112.	Southern peak of summit, Hermon	9,230	
113.	Râs el-Ḳubaibât	8,331	
114.	Râs south of preceding	7,964	
115.	Râs el-Blâṭa	7,434	
116.	Pass north of preceding	7,315	
117.	„ south „	7,041	
118.	Jûrat Mulḥim	7,890	
119.	'Ain er-Rushshaḥa	5,775	
120.	'Ain es-Sauda....	5,856	
121.	Shib'ah	4,100	
122.	Watershed to south of same....	4,427	
123.	Jebel Saddânah	5,108	
124.	Kafr Shûba	3,690	P.E.F., 3,460.
125.	Ridge E. of Rashaiya el-Fakhkhâr	2,781	
126.	Fardîs	1,800	
127.	'Ain Jarfa	2,510	P E.F., 2,400.
128.	Wâdy Buzḳeir	2,033	
129.	Bathanîyah	2,440	
130.	Mîmis	2,580	P.E.F., 2,500.
131.	El-Kufeir	2,953	
132.	Watershed north of preceding	4,055	
133.	'Ain Harshah....	3,313	P. E. F., 3,050.
134.	Wâdy en-Nâr....	2,843	
135.	Beit Laḥya	3,042	P.E.F., 2,850.
136.	Bakkîfa	3,247	Two observations, one of which was in March, 1891.

137.	'Aḳabah	3,584	
138.	Sûḳ el-Khân	1,728	} March, 1891.
139.	'Ain Fujûr	2,645	
140.	Watershed west of Kafr Ḳûḳ lake	3,926	
141.	Sahel Kunaiyisah	4,746	P.E.F., 4,500.
142.	Watershed north of preceding	4,912	
143.	'Ain Ḳarnâyil	3,975	
144.	Diligence road at foot of Wâdy el-Ḳarn	3,883	P.E.F., 3,807; G.P.S., 3,855.

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September 26th, 1891.

ON THE DIRECTION OF THE WIND AT SARONA, RECORDED DAILY BY HERR DREHER, IN THE TEN YEARS 1880 TO 1889.

By James Glaisher, F.R.S.

Up to the present time there has not been any discussion of the direction of the wind, or results deduced as to the average duration in the year of winds from different quarters, and of their average distribution over the several months of the year. In the following investigation I have endeavoured to supply this information, so far as the data furnished have enabled me. I think the phenomenon of the winds in Palestine very important to investigate, and Dr. Chaplin says :—"In no country are the health and comfort of the inhabitants, and the fruitfulness of the soil, more immediately and obviously influenced by the character and direction of the wind, than in Palestine."

TABLE I.—Showing the number of days of wind at Sarona during the month of January in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S E.	S.	S.W.	W.	N.W.	
1880	0	4	4	9	9	2	0	1	29
1881	0	1	3	11	11	1	1	0	28
1882	0	4	2	3	13	1	0	1	24
1883	4	2	1	4	6	9	3	0	29
1884	0	1	1	5	14	1	1	1	24
1885	6	7	1	0	1	3	0	4	22
1886	1	1	2	4	12	0	0	2	22
1887	3	1	3	5	6	2	1	1	22
1888	0	1	3	1	13	2	0	2	22
1889	0	2	4	4	13	1	1	2	27
Sums ...	14	24	24	46	98	22	7	14	249

From this table we see that in January, in the years 1880, 1881, 1882, 1888 and 1889, no air passed from the north, and but very little in the year 1886 ; whilst in the year 1885 more air passed from this quarter than from any other, with the exception of the north-east, In several years no air passed from the west during this month.

The most prevalent winds in January were—

In 1880	....	....	....	....	S.E. 9 and S. 9.
1881	....	....	....	....	S.E. 11 „ S. 11.
1882	....	....	....	....	S. 13 „ N.E. 4.
1883	....	....	....	....	S.W. 9 „ S. 6.
1884	....	....	....	....	S. 14 „ S.E. 5.
1885	....	....	....	....	N.E. 7 „ N. 6.
1886	....	....	....	....	S. 12 „ S.E. 4.
1887	....	....	....	....	S. 6 „ S.E. 5.
1888	....	....	....	....	S. 13 „ E. 3.
1889	....	....	....	....	S. 13 „ E. and S.E. 4.

Therefore, the—

S. wind was most prevalent in six years, viz., 1882, 1884, 1886, 1887, 1888 and 1889.

S.E. „ „ „ two years, viz., 1880 and 1881.

S.W. „ „ „ one year „ 1883.

N.E. „ „ one year „ 1885.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Januaries. The largest number, 98, is from the south ; the next in order, 46, is from the south-east. The smallest number, 7, is from the west, and the next in order, 14, is from the north and north-west.

The numbers in the last column show the number of days in each January in the ten years the air was in motion at 9 a.m. The largest number is 29, in the years 1880 and 1883 ; the smallest number is 22, in the years 1885 to 1888. The average number is 24·9.

TABLE II.—Showing the number of days of wind at Sarona during the month of February in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880	0	3	1	11	1	5	1	0	22
1881	1	3	0	5	9	5	3	0	26
1882	2	3	4	5	9	2	1	1	27
1883	1	2	1	6	2	7	0	0	19
1884	2	3	0	3	13	0	1	1	3
1885	3	1	0	1	4	2	0	1	12
1886	1	1	2	4	9	3	3	0	23
1887	1	0	1	1	3	4	1	2	13
1888	1	0	1	4	7	8	1	0	22
1889	0	0	0	6	9	3	2	0	20
Sums ...	12	16	10	46	66	39	13	5	207

In the years 1880 and 1889 no air passed in this month from the north, and in six out of the ten years no air passed from the north-west.

The most prevalent winds were—

In	1880	....	....	....	S.E. 11 and S.W. 5	
	1881	....	....	....	S. 9 „	S.E. and S.W. 5.
	1882	....	....	....	S. 9 „	S.E. 5.
	1883	....	....	....	S.W. 7 „	S.E. 6.
	1884	....	....	....	S. 13 „	N.E. and S.E. 3.
	1885	....	....	....	S. 4 „	N. 3.
	1886	....	....	....	S. 9 „	S.E. 4.
	1887	....	....	....	S.W. 4 „	S. 3.
	1888	....	....	....	S.W. 8 „	S. 7.
	1889	....	....	....	S. 9 „	S.E. 6.

Therefore, the—

S. wind was most prevalent in six years, viz., 1881, 1882, 1884, 1885, 1886 and 1889.
S.W. „ „ „ three years, viz., 1883, 1887, and 1888.
S.E. „ „ „ one year, viz., 1880.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Februaries. The largest number, 66, is from the south; the next in order, 46, is from the south-east. The smallest number, 5, is from the north-west, and the next in order, 10, is from the east.

The numbers in the last column show the number of days in each February in the ten years the air was in motion at 9 a.m. The largest number is 27, in 1882; the next in order is 26, in 1881. The smallest number is 12, in 1885, and the next in order is 13, in 1887. The average number is 20·7.

TABLE III.—Showing the number of days of wind at Sarona during the month of March in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880	1	5	3	4	1	2	6	2	24
1881	1	2	1	5	5	7	4	2	27
1882	0	0	1	5	9	4	3	0	22
1883	2	0	0	0	7	4	2	0	15
1884	1	1	2	5	7	5	4	1	26
1885	0	0	0	1	2	4	5	3	15
1886	0	1	1	1	11	5	1	5	25
1887	1	1	2	3	3	3	5	1	19
1888	1	3	1	4	6	6	4	1	26
1889	3	3	0	1	5	8	2	1	23
Sums ...	10	16	11	29	56	48	36	16	222

In the year 1882 no air this month passed from the north, north-east and north-west; in 1883 none passed from the north-east, east, south-east, or north-west; in 1885 there was none from the north, north-east, or east; in 1886 none from north, and in 1889 none from the east.

The most prevalent winds were—

In 1880	....	....	....	W. 6 and	N.E. 5.
1881	....	....	....	S.W. 7 „	S.E. and S. 5.
1882	....	....	....	S. 9 „	S.E. 5.
1883	....	....	....	S. 7 „	S.W. 4.
1884	....	....	....	S. 7 „	S.E. and S.W. 5.
1885	....	....	....	W. 5 „	S.W. 4.
1886	....	....	....	S. 11 „	S.W. 5.
1887	....	....	....	W. 5 „	S.E., S., and S.W. 3.
1888	....	....	....	S. 6 „	S.W. 6.
1889	....	....	....	S.W. 8 „	S. 5.

Therefore, the—

S. wind was most prevalent in five years, viz., 1882, 1883, 1884, 1886, and 1888.

W. „ „ „ three years, viz., 1880, 1885, and 1887.

S.W „ „ „ two „ „ 1881 and 1889.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten months of March. The largest, 56, is from the south ; the next in order, 48, is from the south-west. The smallest number, 10, is from the north, and the next in order, 11, is from the east.

The numbers in the last column show the number of days in each March in the ten years the air was in motion at 9 a.m. The largest is 27, in 1881 ; the next in order is 26, in both 1884 and 1888. The smallest number is 15, in both 1883 and 1885. The average number is 22·2.

TABLE IV.—Showing the number of days of wind at Sarona during the month of April in each year 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880	0	0	0	1	5	10	5	3	24
1881	2	0	0	4	7	4	6	3	26
1882	1	0	0	3	3	12	3	2	24
1883	0	0	0	0	4	3	4	1	12
1884	0	4	3	1	3	7	4	2	24
1885	0	0	0	0	1	5	9	0	15
1886	3	0	0	0	0	4	5	7	19
1887	0	4	2	0	3	3	7	1	20
1888	0	0	1	2	5	7	8	2	25
1889	1	0	0	1	5	3	6	6	22
Sums ...	7	8	6	12	36	58	57	27	211

In several years no air passed in this month from the north, north-east, east or south-east.

The most prevalent winds were—

In 1880	....	....	....	S.W.	10	and S. and W. 5.
1881	....	....	....	S.	7	„ W. 6.
1882	....	....	....	S.W.	12	„ S.E., S. and W. 3.
1883	....	....	....	S.	4	„ W. 4.
1884	....	....	....	S.W.	7	„ N.E. and W. 4.
1885	....	....	....	W.	9	„ S.W. 5.
1886	....	....	....	N.W.	7	„ W. 5.
1887	....	....	....	W.	7	„ N.E. 4.
1888	....	....	....	W.	8	„ S.W. 7.
1889	....	....	....	W.	6	„ N.W. 6.

Therefore, the—

W. wind was most prevalent in four years, viz., 1885, 1887, 1888, and 1889.

S.W. „ „ „ three years, viz., 1880, 1882, and 1884.

S. „ „ „ two „ „ 1881 and 1883.

N.W. „ „ „ one „ „ 1886.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Aprils. The largest number, 58, is from the south-west, and the next in order, 57, is from the west; the smallest number, 6, is from the east, and the next in order, 7, is from the north.

The numbers in the last column show the number of days in each April in the ten years the air was in motion at 9 a.m. The largest is 26, in 1881; the next in order is 25, in 1888. The smallest number is 12, in 1883, and the next in order is 15, in 1885. The average number is 21·1.

TABLE V.—Showing the number of days of wind at Sarona during the month of May in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880	0	3	1	0	0	7	8	7	26
1881	1	2	2	0	0	6	7	9	27
1882	1	0	1	0	3	13	8	5	31
1883	1	1	0	0	0	7	4	1	14
1884	3	0	0	0	1	10	5	10	29
1885	1	0	0	1	0	4	12	3	21
1886	2	1	0	0	2	8	11	5	29
1887	1	0	0	0	4	5	11	4	25
1888	2	0	2	0	0	8	8	10	30
1889	2	0	1	2	0	7	6	6	24
Sums ...	14	7	7	3	10	75	80	60	256

In several years no air passed in this month from the north, north-east, east, south-east, or south.

The most prevalent winds were—

In 1880	....	....	....	W.	8	and S.W. and N.W. 7.
1881	....	....	....	N.W.	9	„ W. 7.
1882	....	....	....	S.W.	13	„ W. 8.
1883	....	....	....	S.W.	7	„ W. 4.
1884	....	....	....	S.W.	10	„ N.W. 10.
1885	....	....	....	W.	12	„ S.W. 4.
1886	....	....	....	W.	11	„ S.W. 8.
1887	....	....	...	W.	11	„ S.W. 5.
1888	....	....	....	N.W.	10	„ S.W. and W. 8.
1889	....	....	....	S.W.	7	„ W. and N.W. 6.

Therefore, the—

W. wind was most prevalent in four years, viz., 1880, 1885, 1886, and 1887.

S.W. „ „ „ „ 1882, 1883, 1884, and 1889.

N.W. „ „ in two years, viz., 1881 and 1888.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Mays. The largest number,

80, is from the west ; the next in order, 75, is from the south. The smallest number, 3, is from the south-east, and the next in order, 7, is from both the north-east and east.

The numbers in the last column show the number of days in each May in the 10 years the air was in motion at 9 a.m. The largest number is 31, in 1882 ; the next in order is 30, in 1888. The smallest number is 14, in 1883, and the next in order is 21, in 1885. The average number is 25·6.

TABLE VI.—Showing the number of days of wind at Sarona during the month of June in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880	0	0	0	0	0	20	4	5	29
1881	1	1	0	0	0	9	7	9	27
1882	2	0	2	0	1	7	14	4	30
1883	0	1	1	1	0	8	4	1	16
1884	1	1	0	0	0	6	14	5	27
1885	0	0	1	1	1	9	12	3	27
1886	1	1	0	0	2	4	14	7	29
1887	0	0	0	0	1	13	13	1	28
1888	0	0	0	0	0	11	13	4	28
1889	0	0	0	1	3	14	3	2	23
Sums ...	5	4	4	3	8	101	98	41	264

In several years no air passed in this month from the north, north-east, east, south-east, or south.

The most prevalent winds were—

In 1880	....	....	....	S.W. 20 and N.W. 5.
1881	....	....	....	S.W. 9 „ N.W. 9.
1882	....	....	....	W. 14 „ S.W. 7.
1883	....	....	....	S.W. 8 „ W. 4.
1884	....	....	....	W. 14 „ S.W. 6.
1885	....	....	....	W. 12 „ S.W. 9.
1886	....	....	....	W. 14 „ N.W. 7.
1887	....	....	....	S.W. 13 „ W. 13.
1888	....	....	....	W. 13 „ S.W. 11.
1889	....	....	....	S.W. 14 „ S. and W. 3.

Therefore, the—

S.W. wind was most prevalent in five years, viz., 1880, 1881, 1883, 1887, and 1889.

W. " " " " 1882, 1884, 1885, 1886, and 1888.

And the N., N.E., E., S.E. and S. were the least prevalent in the ten years.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Junes. The largest number, 101, is from the south-west; the next in order, 98, is from the west. The smallest number, 3, is from the south-east, and the next in order, 4, is from both the north-east and east.

The numbers in the last column show the number of days in each June in the ten years the air was in motion at 9 a.m. The largest number is 30, in 1882; the next in order is 29, in both 1880 and 1886. The smallest number is 16, in 1883, and the next in order is 23, in 1889. The average number is 26·4.

TABLE VII.—Showing the number of days of wind at Sarona during the month of July in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880	0	0	0	0	0	22	6	2	30
1881	0	0	0	0	0	21	8	1	30
1882	0	0	4	0	0	24	2	1	31
1883	0	0	0	0	0	16	12	0	28
1884	0	0	0	0	0	11	18	0	29
1885	0	0	0	0	0	14	15	1	30
1886	0	0	0	0	0	12	14	3	29
1887	0	0	0	0	0	21	8	0	29
1888	0	0	0	0	0	13	10	2	25
1889	0	0	0	1	1	21	2	0	25
Sums ...	0	0	4	1	1	175	95	10	286

In the ten years no air passed in this month from the north or north-east, and there is only one instance from the south-east and south, both occurring in the year 1889, and only four instances from the east, in 1882

The most prevalent winds were—

In 1880	....	....	....	S.W. 22 and	W. 6.
1881	....	....	....	S.W. 21 „	W. 8.
1882	....	....	....	S.W. 24 „	E. 4.
1883	....	....	....	S.W. 16 „	W. 12.
1884	....	....	....	W. 18 „	S.W. 11.
1885	....	....	....	W. 15 „	S.W. 14.
1886	....	....	....	W. 14 „	S.W. 12.
1887	....	....	....	S.W. 21 „	W. 8.
1888	....	....	....	S.W. 13 „	W. 10.
1889	....	....	....	S.W. 21 „	W. 2.

Therefore, the—

S.W. wind was most prevalent in seven years, viz., 1880, 1881, 1882, 1883, 1887, 1888, and 1889.

W. „ „ „ in three years, viz., 1884, 1885, and 1886.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Julys. The largest number, 175, is from the south-west; the next in order, 95, is from the west. No wind blew from the north or north-east during this month in the ten years, and on only one instance from both the south-east and south.

The numbers in the last column show the number of days in each July in the ten years the air was in motion at 9 a.m. The largest number is 31, in 1882; the next in order is 30, in each of the years 1880, 1881, and 1885. The smallest number is 25, in both 1888 and 1889. The average number is 28·6.

TABLE VIII.—Showing the number of days of wind at Sarona during the month of August in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m.:—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880	0	0	0	0	0	18	1	5	24
1881	0	0	0	1	4	24	1	0	30
1882	1	0	1	0	1	7	17	4	31
1883	0	0	0	0	0	9	7	3	19
1884	0	0	0	0	1	13	8	4	26
1885	0	0	0	0	3	13	8	3	27
1886	0	0	0	0	1	13	13	2	29
1887	0	0	0	0	1	18	8	0	27
1888	0	0	0	0	1	13	8	2	24
1889	0	0	0	3	2	21	1	0	27
Sums ...	1	0	1	4	14	149	72	23	264

In the ten years no air passed in this month from the north, north-east, and east, with the exception of two days in 1882, one from the north and one from the east.

The most prevalent winds were—

In 1880	....	....	....	S.W. 18	and	N.W. 5.
1881	....	....	....	S.W. 24	„	S. 4.
1882	....	....	....	W. 17	„	S.W. 7.
1883	....	....	....	S.W. 9	„	W. 7.
1884	....	....	....	S.W. 13	„	W. 8.
1885	....	....	....	S.W. 13	„	W. 8.
1886	....	....	....	S.W. 13	„	W. 13.
1887	....	....	....	S.W. 18	„	W. 8.
1888	....	....	....	S.W. 13	„	W. 8.
1889	....	....	....	S.W. 21	„	S.E. 3.

Therefore, the—

S.W. wind was most prevalent in nine years, viz., 1880, 1881, 1883, 1884, 1885, 1886, 1887, 1888 and 1889.
W. „ „ in one year, viz., 1882.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Augusts. The largest number, 149, is from the south-west; the next in order, 72, is from the west. No air passed from the north-east during the ten years in this month, and only one instance from both the north and east.

The numbers in the last column show the number of days in each August in the ten years the air was in motion at 9 a.m. The largest number is 31, in 1882; the next in order is 30, in 1881. The smallest number is 19, in 1883, and the next in order is 24, in both 1880 and 1888. The average number is 26·4.

TABLE IX.—Showing the number of days of wind at Sarona during the month of September in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880	0	3	0	1	1	15	4	4	28
1881	0	1	0	1	0	11	2	6	21
1882	3	0	0	0	3	14	5	2	27
1883	6	0	0	0	0	8	0	2	16
1884	2	1	0	0	3	13	4	2	25
1885	1	0	0	0	0	8	7	2	18
1886	2	1	0	0	3	12	4	5	27
1887	2	0	0	0	0	11	3	6	22
1888	1	0	0	0	2	7	4	6	20
1889	0	1	0	0	4	7	7	2	21
Sums ...	17	7	0	2	16	106	40	37	225

In several years no air passed in this month from the east or its compounds; in the years 1880 and 1881, the south-east was present on one day in both years, and the east wind did not blow once in the ten years.

The most prevalent winds were—

In 1880	....	....	....	S.W.	15	and	W. and N.W. 4.
1881	....	....	....	,,	11	,,	N.W. 6.
1882	....	....	....	,,	14	,,	W. 5.
1883	....	....	....	,,	8	,,	N. 6.
1884	....	....	....	,,	13	,,	W. 4.
1885	....	....	....	,,	8	,,	W. 7.
1886	....	....	....	,,	12	,,	N.W. 5.
1887	....	....	....	,,	11	,,	N.W. 6.
1888	....	....	....	,,	7	,,	N.W. 6.
1889	....	....	....	,,	7	,,	W. 7.

Therefore the south-west wind was most prevalent in every year.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Septembers; the largest number, 106, is from the south-west; the next in order, 40, is from the west. No air passed from the east during the ten years, in this month, and only two instances from the south-east. The numbers in the last

column show the number of days in each September in the ten years the air was in motion at 9 a.m.; the largest number is 28, in 1880; the next in order is 27, in both 1882 and 1886; the smallest number is 16, in 1883, and the next in order is 18, in 1885. The average number is 22·5.

TABLE X.—Showing the number of days of wind at Sarona during the month of October in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880	2	4	0	3	1	5	3	3	21
1881	3	3	0	4	2	3	1	8	24
1882	4	0	4	2	0	10	2	3	25
1883	1	2	2	0	4	3	1	0	13
1884	1	1	0	3	5	6	0	2	18
1885	0	1	2	1	4	0	2	1	11
1886	3	0	0	1	6	5	0	2	17
1887	0	2	2	1	2	10	2	1	20
1888	1	0	2	4	2	2	1	4	16
1889	3	0	3	0	3	1	2	2	14
Sums ...	18	13	15	19	29	45	14	26	179

In several years no air passed from the north, north-east, or east, whilst in the other years, excepting 1880 and 1881, but little passed from these directions.

The most prevalent winds were—

In 1880	....	S.W. 5 and N.E. 4.
1881	....	N.W. 8 „ S.E. 4.
1882	....	S.W. 10 „ N. and E. 4.
1883	....	S. 4 „ S.W. 3.
1884	....	S.W. 6 „ S. 5.
1885	....	S. 4 „ E. and W. 2.
1886	....	S. 6 „ S.W. 5.
1887	....	S.W. 10 „ N.E., E., S. and W. 2.
1888	....	N.W. 4 „ S.E. 4.
1889	....	S. 3 „ E. and N. 3

Therefore the—

S.W. wind was most prevalent in four years, viz., 1880, 1882, 1884, 1887.
S. „ „ four years, viz., 1883, 1885, 1886, 1889.
N.W. „ „ two years, viz., 1881 and 1888.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Octobers; the largest number, 45, is from the south-west; the next in order, 29, is from the south; the smallest number, 13, is from the north-east; and the next in order, 14, is from the west.

The numbers in the last column show the number of days in each October in the ten years the air was in motion at 9 a.m.; the largest number is 25, in 1882; the next in order is 24, in 1881; the smallest number is 11, in 1885; and the next in order is 13, in 1883. The average number is 17·9.

TABLE XI.—Showing the number of days of wind at Sarona during the month of November in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880	0	2	3	7	2	5	0	0	19
1881	0	3	3	8	7	4	0	1	26
1882	1	3	3	2	0	15	0	0	24
1883	0	0	1	3	13	1	1	0	19
1884	1	0	0	5	6	0	1	4	17
1885	0	0	0	1	8	1	0	0	10
1886	0	0	0	0	10	2	2	0	14
1887	0	5	1	6	5	1	0	1	19
1888	0	4	1	2	9	5	3	0	24
1889	1	2	3	1	6	3	0	0	16
Sums ...	3	19	15	35	66	37	7	6	188

In the years 1880, 1881, 1883, 1885, 1886, 1887, and 1888, no air passed in this month from the north; in the years 1883 to 1886 none passed from the north-east, and for the three years 1884, 1885, 1886, there was none from the east.

The most prevalent winds were—

In 1880	....	....	....	S.E. 7	and S.W. 5.
1881	....	....	....	S.E. 8	„ S. 7.
1882	....	....	....	S.W. 15	„ N.E. and E. 3.
1883	....	....	....	S. 13	„ S.E. 3.
1884	....	....	....	S. 6	„ S.E. 5.
1885	....	....	....	S. 8	„ S.E. and S.W. 1.
1886	....	....	....	S. 10	„ S.W. and W. 2.
1887	....	....	....	S.E. 6	„ N.E. and S. 5.
1888	....	....	....	S. 9	„ S.W. 5.
1889	....	....	....	S. 6	„ S.W. and E. 3.

Therefore, the—

S.	wind	was most prevalent in	six years, viz., 1883, 1884, 1885, 1886, 1888, and 1889.
S.E.	„	„	three years, viz., 1880, 1881, and 1887.
S.W.	„	„	one year, viz., 1882.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Novembers. The largest number, 66, is from the south ; the next in order, 37, is from the south-west. The smallest number, 3, is from the north, and the next in order, 6, is from the north-west.

The numbers in the last column show the number of days in each November in the ten years the air was in motion at 9 a.m. The largest number is 26, in 1881 ; the next in order is 24, in both 1882 and 1888. The smallest number is 10, in 1885, and the next in order is 14, in 1886 The average number is 18·8.

TABLE XII.—Showing the number of days of wind at Sarona during the month of December in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880	0	5	2	6	11	2	2	0	28
1881	0	5	2	11	10	0	1	0	29
1882	1	2	1	4	0	10	4	0	22
1883	0	1	1	12	9	1	0	0	24
1884	0	7	2	4	1	0	0	1	15
1885	0	1	3	10	11	0	1	1	27
1886	3	0	0	0	9	1	1	0	14
1887	0	1	1	1	8	6	1	0	18
1888	0	3	1	2	9	5	1	0	21
1889	1	2	6	3	11	1	0	0	23
SUMS ..	5	27	19	52	79	26	11	2	221

In the years 1880, 1881, 1883, 1884, 1885, 1887 and 1888, no air passed in this month from the north. In the year 1886 there was no instance of air in motion from north-east, east, south-east, and north-west. The amount of air from the west in the ten years was very small.

The most prevalent winds were—

In 1880	....	....	....	S. 11 and S.E. 6.
1881	....	....	....	S.E. 11 „ S. 10.
1882	....	....	....	S.W. 10 „ S.E. and W. 4.
1883	....	....	....	S.E. 12 „ S. 9.
1884	....	....	....	N.E. 7 „ S.E. 4.
1885	....	....	....	S. 11 „ S.E. 10.
1886	....	....	....	S. 9 „ N. 3.
1887	....	....	....	S. 8 „ S.W. 6.
1888	....	....	....	S. 9 „ S.W. 5.
1889	....	....	.. .	S. 11 „ E. 6.

Therefore the—

S. wind was most prevalent in six years, viz., 1880, 1885, 1886, 1887, 1888 and 1889.
S.E. „ „ two years, viz., 1881 and 1883.
S.W. „ „ one year, viz., 1882.
N.E. „ „ one year, viz., 1884.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Decembers. The largest number, 79, is from the south ; the next in order, 52, is from the south-east. The smallest number, 2, is from the north-west, and the next in order, 5, is from the north.

The numbers in the last column show the number of days in each December in the ten years the air was in motion at 9 a.m. The largest number is 29, in 1881 ; the next in order is 28, in 1880. The smallest number is 14, in 1886, and the next in order is 15, in 1884. The average number is 22·1.

By collecting the prevailing winds under each month in the preceding twelve tables, and which are contained in Table XIII.

TABLE XIII.—Showing the prevailing direction of wind at Sarona in every month from January, 1880, to December, 1889 :—

Years.	January.	February.	March.	April.	May.	June.
1880	S.E. & S.	S.E.	W. & N.E.	S.W.	W., S.W. & N.W.	S.W.
1881	S.E. & S.	S.	S.W., S.E. & S.	S. & W.	N.W. & W.	S.W. & N.W.
1882	S.	S.	S. & S.E.	S.W.	S.W. & W.	W. & S.W.
1883	S.W. & S.	S.W. & S.E.	S. & S.W.	S. & W.	S.W. & W.	S.W.
1884	S.	S.	S., S.E., & S.W.	S.W., N.E. & W.	S.W. & N.W.	W. & S.W.
1885	N.E. & N.	S. & N.	W. & S.W.	W. & S.W.	W.	W. & S.W.
1886	S.	S.	S. & S.W.	N.W. & W.	W. & S.W.	W. & N.W.
1887	S. & S.E.	S.W. & S.	Variable.	W. & N.E.	W.	S.W. & W.
1888	S.	S.W. & S.	S. & S.W.	W. & S.W.	N.W., S.W. & W.	W. & S.W.
1889	S.	S. & S.E.	S.W. & S.	W. & N.W.	S.W., W. & N.W.	S.W.

Years.	July.	August.	September.	October.	November.	December.
1880	S.W.	S.W.	S.W.	S.W. & N.E.	S.E. & S.W.	S. & S.E.
1881	S.W.	S.W.	S.W. & N.W.	N.W. & S.E.	S.E. & S.	S.E. & S.
1882	S.W.	W. & S.W.	S.W.	S.W.	S.W.	S.W.
1883	S.W. & W.	S.W. & W.	S.W. & N.	S. & S.W.	S.	S.E. & S.
1884	W. & S.W.	S.W. & W.	S.W.	S.W. & S.	S. & S.E.	N.E. & S.E.
1885	S.W. & W.	S.W. & W.	S.W. & W.	Variable.	S.	S. & S.E.
1886	W. & S.W.	S.W. & W.	S.W.	S. & S.W.	S.	S.
1887	S.W. & W.	S.W. & W.	S.W. & N.W.	S.W.	S.E., N.E. & S.	S. & S. W.
1888	S.W. & W.	S.W. & W.	S.W. & N.W.	N.W. & S.E.	S. & S.W.	S. & S.W.
1889	S.W.	S.W.	S.W. & W.	Variable.	S. & S.W.	S. & E.

By collecting these several prevailing directions together in each year we learn that the prevailing direction of the wind was :—

In the year 1880 :—

S.W. for 6 months.
S.E. „ 2½ „
S. „ 1 month.
N.W. „ 1 „
W. „ ½ „
Variable for 1 month.

In the year 1881 :—

S. for 3 months.
S.W. „ 3 „
S.E. „ 2 „
N.W. „ 2 „
W. „ 1 month.
Variable for 1 month.

In the year 1882 :—

S.W. for 7½ months.
S. „ 2½ „
S.E. „ ½ month.
W. „ 1½ „

In the year 1883 :—

S.W. for 5 months.
S. „ 3½ „
W. „ 2
S.E. „ 1 month.
N. „ ½ „

In the year 1884 :—

S. for 4½ months.
S.W. „ 3½ „
W. „ 1½ month.
N.W. „ ½ „
Variable for 2 months.

In the year 1885 :—

W. for 4 months.
S.W. „ 3 „
S. „ 2 „
N. „ 1 month.
N.E. „ ½ „
S.E. „ ½ „
Variable for 1 month.

In the year 1886 :—

S. for 5 months.
S.W. „ 3 „
W. „ 3 „
N.W. „ 1 month.

In the year 1887 :—

S.W. for 4 months.
W. „ 3 „
S. „ 1½ month.
N.E. „ ½ „
S.E. „ ½ „
N.W. „ ½ „
Variable for 2 months.

In the year 1888 :—

S.W. for 4½ months.
S. „ 3 „
W. „ 2 „
N.W. „ 1 month.
S.E. „ ½ „
Variable for 1 month.

In the year 1889 :—

S.W. for 4½ months.
S. „ 3 „
W. „ 1 month.
E. „ ½ „
S.E. „ ½ „
N.W. „ ½ „
Variable for 2 months.

From these we find that the prevailing direction of the wind in these ten years was :—

S.W. for 4 months, on the average.

In 1882 it was prevalent for $7\frac{1}{2}$ months.
1880 „ „ „ 6 „
1881, 1885 and 1886 it was prevalent for 3 months only.

The prevailing direction was :—

S. for 3 months, on the average.

In 1884 it was prevalent for $4\frac{1}{2}$ months.
1880 „ „ „ 1 month only.

The prevailing direction was :—

W. for nearly 2 months, on the average.
S.E. for about two-thirds of a month, on the average.
N.W. for less than two-thirds of a month, on the average.

And there was no instance of the prevailing wind from the E., N. or N.E., excepting for a few days together, during these 10 years.

By adding the number of days of wind in Tables I to XII together, the next table was formed.

TABLE XIV.—Showing the number of the days of the wind during each of the years 1880 to 1889, at Sarona, referred to eight points of the Azimuthal Circle.

Years.	Number of Days the Wind was from—								Total number of days in the Year.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880	3	29	12	41	34	113	40	31	303
1881	9	21	11	50	55	95	41	13	295
1882	16	12	23	24	42	119	58	23	317
1883	15	9	7	26	45	76	38	38	254
1884	11	19	8	26	54	72	60	33	283
1885	11	10	7	16	35	64	69	22	234
1886	16	6	5	11	65	69	68	38	278
1887	8	14	12	17	36	97	60	16	260
1888	6	11	12	19	51	86	61	34	280
1889	11	10	17	22	62	90	35	21	268
Sums ...	106	141	114	252	479	881	530	267	2,772

The numbers in this table under each direction differ very much from each other.

The N.	wind numbered	3	days in 1880.
		16	„ „ 1882 and 1886.
The N.E.	„ „	6	„ „ 1886.
		29	„ „ 1880.
The E.	„ „	5	„ „ 1886.
		23	„ „ 1882.
The S.E.	„ „	11	„ „ 1886.
		50	„ „ 1881.
The S.	„ „	34	„ „ 1880.
		65	„ „ 1886.
The S.W.	„ „	64	„ „ 1885.
		119	„ „ 1882.
The W.	„ „	35	„ „ 1889.
		69	„ „ 1885.
The N.W.	„ „	13	„ „ 1881.
		38	„ „ 1883 and 1886.

By taking the mean of the numbers at the foot of each column in Table XIV, we find that from the ten years' observations the average number of days of each wind in the year with

N.	was	10·6 days,
N.E.	„	14·1 „
E.	„	11·6 „
S.E.	„	25·2 „
S.	„	47·9 „
S.W.	„	88·1 „
W.	„	53·0 „
N.W.	„	26·7 „

And if we take the difference between these numbers and those of each year in Table XIV, we shall determine the departure in every year from the average direction of each wind, and these values are shown in the next table.

TABLE XV.—Showing number of days of departure in each direction of the wind, from average 1880 to 1889, at Sarona :—

Years.	Number of days of departure in each direction of the wind from average.							
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
1880 ...	− 7·6	+14·9	+ 0·4	+15·8	−13·9	+24·9	−13·0	+ 4·3
1881 ...	− 1·6	+ 6·9	− 0·6	+24·8	+ 7·1	+ 6·9	−12·0	−13·7
1882 ...	+ 5·4	− 2·1	+11·4	− 1·2	− 5·9	+30·9	+ 5·0	− 3·7
1883 ...	+ 4·4	− 5·1	− 4·6	+ 0·8	− 2·9	−12·1	−15·0	+11·3
1884 ...	+ 0·4	+ 4·9	− 3·6	+ 0·8	+ 6·1	−16·1	+ 7·0	+ 6·3
1885 ...	+ 0·4	− 4·1	− 4·6	− 9·2	−12·9	−24·1	+16·0	− 4·7
1886 ...	+ 5·4	− 8·1	− 6·6	−14·2	+17·1	−19·1	+15·0	+11·3
1887 ...	− 2·6	− 0·1	+ 0·4	− 8·2	−11·9	+ 8·9	+ 7·0	−10·7
1888 ...	− 4·6	− 3·1	+ 0·4	− 6·2	+ 3·1	− 2·1	+ 8·0	+ 7·3
1889 ...	+ 0·4	− 4·1	+ 5·4	− 3·2	+14·1	+ 1·9	−18·0	− 5·7

The sign + denotes more than the average, and the sign − less than the average.

In this table we see that the departures from the averages are in some years great. The following are the extreme departures in excess and defect :—

In 1882, 1886 } the N. was 5·4 days in excess.
1880 the N. was 7·6 days in defect.
1880 „ N.E. „ 14·9 „ excess.
1886 „ „ „ 8·1 „ defect.
1882 „ E. „ 11·4 „ excess.
1886 „ „ „ 6·6 „ defect.
1881 „ S.E. „ 24·8 „ excess.
1886 „ „ „ 14·2 „ defect.
1886 „ S. „ 17·1 „ excess.
1880 „ „ „ 13·9 „ defect.
1882 „ S.W. „ 30·9 „ excess.
1885 „ „ „ 24·1 „ defect.
1885 „ W. „ 16·0 „ excess.
1889 „ „ „ 18·0 „ defect.
1883, 1889 } the N.W. was 11·3 days in excess.
1881 the N.W. was 13·7 days in defect.

It is to be remarked that those years thus distinguished belong to groups of three or four + or − signs coming together in successive years

showing that groups of years occur together with more or less than the average. Thus, the north was in excess from 1882 to 1886 ; the north-east was less than the average in each year, excepting 1884, from 1882 to 1889 ; the east was less from 1883 to 1886 : the south-east from 1885 to 1889 ; the south-west from 1883 to 1886 ; the west was in excess from 1884 to 1888. The signs under south and north-west are more evenly distributed. The numbers at the foot of the column of Table XIV show the number of times the wind has blown from the different directions ; the largest number, 881, is from the south-west ; the next in order, 530 from the west ; the next, 479, from the south. The smallest number is 106, from north ; the next in order, 116, from the east ; and 141 from north-east. The numbers in the last column of Table XIV show the frequency of air in motion in each year. The largest number, 317, was in the year 1882 ; the next in order were 303, in 1880, and 295, in 1881. The smallest number was 234, in 1885, and the next in order were 254, in 1883, and 260, in 1887.

TABLE XVI.—Showing the number of days of each wind at Sarona in the ten years, 1880 to 1889 :—

Months.	Number of days the wind was								Total number of days in ten months.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
January ...	14	24	24	46	98	22	7	14	249
February ...	12	16	10	46	66	39	13	5	207
March ...	10	16	11	29	56	48	36	16	222
April	7	8	6	12	36	58	57	27	211
May	14	7	7	3	10	75	80	60	256
June	5	4	4	3	8	101	98	41	264
July	0	0	4	1	1	175	95	10	286
August ...	1	0	1	4	14	149	72	23	264
September ...	17	7	0	2	16	106	40	37	225
October ...	18	13	15	19	29	45	14	26	179
November ...	3	19	15	35	66	37	7	6	188
December ...	5	27	19	52	79	26	11	2	221
Sums... ...	106	141	116	252	479	881	530	267	2,772

This table shows the total number of days of each wind, in every month in ten years, from which we learn that there was no instance of the north wind in July, none of the north-east either in July or August, and none from the east in September :—

The N.	wind	least	prevalent	in July and August.
„	„	most	„	September and October.
N.E.	„	least	„	July and August.
„	„	most	„	January and December.
E.	„	least	„	August and September.
„	„	most	„	January and December.
S.E.	„	least	„	July and September.
„	„	most	„	January, February and December.
S.	„	least	„	June and July.
„	„	most	„	January and December.
S.W.	„	least	„	January and December.
„	„	most	„	July and August.
W.	„	least	„	January and November.
„	„	most	„	June and July.
N.W.	„	least	„	February and December.
„	„	most	„	May and June.

By taking the mean of the sum at the foot of each column of Table XVI, which are identical with those following Table XIV, and thus prove the correctness of the calculations up to this point, we find that the monthly average number of days of wind as follows :—

The N.	wind	was	prevalent	8·8 days.
N.E.	„	„		11·7 „
E.	„	„		9·7 „
S.E.	„	„		21·0 „
S.	„	„		39·9 „
S.W.	„	„		73·4 „
W.	„	„		44·2 „
N.W.	„	„		22·3 „

If we take the difference between these numbers and those of each month on Table XVI, we shall determine the departure in each month from the average monthly direction of each wind, and these values are shown in the next table.

TABLE XVII.—Showing the departure of the number of days of each wind in ten years from the average :—

Months.	Departure from average of							
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
	days.	days.	days.	days.	days.	days.	days.	days.
January ...	+5·2	+12·3	+14·3	+25·0	+58·1	−51·4	−37·2	− 8·3
February ...	+3·2	+ 4·3	+ 0·3	+25·0	+26·1	−34·4	−31·2	−17·3
March ...	+1·2	+ 4·3	+ 1·3	+ 8·0	+16·1	−25·4	− 8·2	− 6·3
April ...	−1·8	− 3·7	− 3·7	− 9·0	− 3·9	−15·4	+12·8	+ 4·7
May... ...	+5·2	− 4·7	− 2·7	−18·0	−29·9	+ 1·6	+35·8	+37·7
June ...	−3·8	− 7·7	− 5·7	−18·0	−31·9	+27·6	+53·8	+18·7
July ...	−8·8	−11·7	− 5·7	−20·0	−38·9	+101·6	+50·8	−12·3
August ...	−7·8	−11·7	− 8·7	−17·0	−25 9	+75·6	+27·8	+ 0·7
September	+8·2	− 4·7	− 9·7	−19·0	−23·9	+32·6	− 4·2	+14·7
October ...	+9·2	+ 1·3	+ 5·3	− 2·0	−10·9	−28·4	−30·2	+ 3·7
November...	−5·8	+ 7·3	+ 5·3	+14·0	+26·1	−36·4	−37·2	−16·3
December...	−3·8	+15·3	+ 9·3	+31·0	+39·1	−47·4	−33·2	−20·3

The sign + denotes more than the average, and the sign − less than the average.

By reference to this table it will be seen by the grouping of the signs that certain winds prevail most in particular months.

The N.E. has — sign from April to September.
E. ,, ,, April to September.
S.E. ,, ,, April to October.
W. ,, ,, April to October.
S.W. ,, ,, October to April.
W. ,, ,, September to March.
N.W. ,, ,, November to March.
N.E. has + sign from October to March.
E. ,, ,, October to March.
S.E. ,, ,, November to March.
S. ,, ,, November to March.
S.W. ,, ,, May to September.
W. ,, ,, April to August.
N.W. ,, ,, April to June and August to October.

The north wind has two or three months together with a + sign, as January, February and March, and three months together with a — sign, as June, July and August, and with either + or — in the other six months.

The extreme departures of each wind are as follows :—

The N.	was	9·2	days	above the average	in October.
N.	,,	8·8	,,	below ,,	July.
N.E.	,,	15·3	,,	above ,,	December.
N.E.	,,	11·7	,,	below ,,	July and August.
E.	,,	14·3	,,	above ,,	January.
E.	,,	9·7	,,	below ,,	September.
S.E.	,,	31·0	,,	above ,,	December.
S.E.	,,	20·0	,,	below ,,	July.
S.	,,	58·1	,,	above ,,	January.
S.	,,	38·9	,,	below ,,	July.
S.W.	,,	101·6	,,	above ,,	July.
S.W.	,,	51·4	,,	below ,,	January.
W.	,,	53·8	,,	above ,,	June.
W.	,,	37·2	,,	below ,,	January and November.
N.W	,,	37·7	,,	above ,,	May.
N.W.	,,	20·3	,,	below ,,	December.

The numbers in the last column of Table XVI show the number of days in each month in the ten years the air has been in motion at 9 a.m. The three largest of these numbers are in the months of June, July and August, 264, 286 and 264 respectively, the two smallest are in October and November, and the next in order was February, being 179, 188 and 207, respectively. The total number of days of air in motion is 2,772, being the same as that in Table XIV. The total number of days of observation was 3,653, so that in these 10 years, 881 days the air was calm, or nearly so. These 881 are made up of—

61	days in	January.	24	days in	July.
76	,,	February.	46	,,	August.
88	,,	March.	75	,,	September.
89	,,	April.	131	,,	October.
54	,,	May.	112	,,	November.
36	,,	June.	89	,,	December.

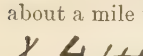
From these it appears that the air is most continually in motion in July, next in order in June and August, and is least continual in motion in October and November.

In this discussion I have not made any reference to the strength of the wind ; this I must defer to a future time.

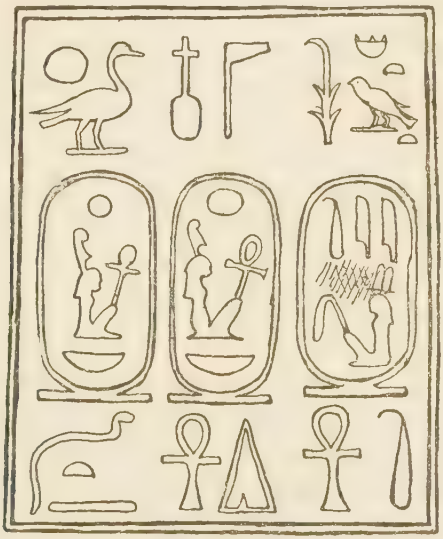
NOTE ON AN ARAMÆAN INSCRIPTION FROM EGYPT

By Professor Sayce.

I have found the names of two Aramæans, written in the Aramæan form of the Phœnician alphabet, on a rock on the western bank of the Nile, about a mile to the north of the wady called Shut er-Rigâleh. One reads

 , אמרא, "Amrâ," with the terminal *aleph* of Aramaic; the other, , חנמנתן, "Khnum-nathan."

The interest of the last name lies in the fact that it is compounded with the name of the Egyptian god Khnum.



SKETCH OF THE INSCRIPTION ON ALABASTER VASE FOUND NEAR GAZA.

NOTE ON AN ALABASTER VASE.

By P. le Page Renouf.

The inscription upon the alabaster vase said to have been found in the neighbourhood of Gaza contains three royal Egyptian "rings," or, as others call them, "cartouches."

Two of them are identical[1] and contain the throne name of King Amenhotep III., of the eighteenth dynasty, , *Neb-maât-Râ*. Above these two rings are the words , "good god, son of Râ."

Facing these rings is that of his queen, Tia, somewhat damaged, , so that it is not possible to see whether the vowel *i* is followed (as it generally is) by some other sign.

Over the queen's name is written her title, , "Royal Wife, the Great One." The latter adjective has sometimes, I think, been supposed to *imply* that there were other wives besides the "principal" one. This is not the case. The word is used not relatively but absolutely, and is sometimes followed by a noun dependent upon it, as in the case of the mother of Amenhotep III., Mâutemua, , "Most Gracious." This king, certainly, had other wives besides Tia.

Under the king's names are the words , "giving life for ever," and they are apparently repeated under the queen's name, but the last signs here are too much injured to be deciphered with certainty. The whole may confidently be restored as in the plate.

NARRATIVE OF A SECOND JOURNEY TO PALMYRA,

including an exploration of the Alpine regions of Lebanon and Anti-Lebanon, and the southern half of the Nusairy Chain.

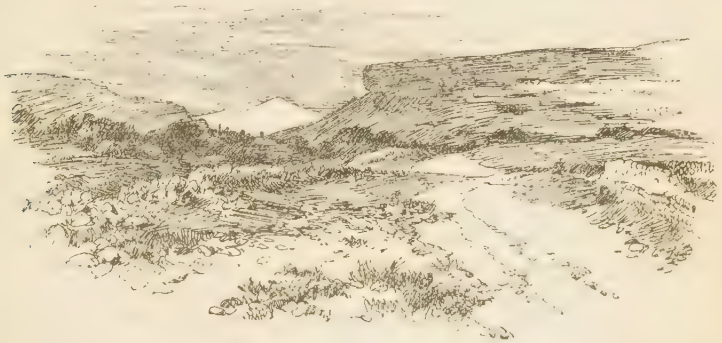
By Rev. George E. Post, M.A., M.D., F.L.S.

(*Continued from April "Quarterly Statement," p.* 167.)

After a ramble on foot through the town we took our lunch under the shade of the poplar trees by the fountain above the gorge, and at 1 p.m. started for Yebrûd. Our road lay over the glaring chalk hills, at this season almost barren of vegetation, until we neared the entrance of the Yebrûd gorge. There, in a vineyard to the right of the road, we found fine specimens of *Daucus pulcherrimus*, *Willd.* (new for this region).

[1] Compare Lepsius, *Denken*, III., Pl. 82, *e* and *f*. In the latter place the ring of Tia is between two identical rings of the king.

From this point we had a fine effect of a pure white chalk hill of a conical shape, standing out in strong contrast to the green gardens and orchards of Yebrûd, and the grey limestone of the mountains which hem in the pass. The illusion of a snow-capped peak was perfect. The accompanying cut represents the appearance of the hills as seen from the rocky bluff which overlooks the fountain :—



The following cut represents this and an adjacent hill to the right, taken from the Mohammedan cemetery just south of the town. Even so close as this it would be difficult to avoid the illusion of hills covered with slightly-discoloured snow, were it not for the glare and heat of July

sunshine, and the threshing floors and heaps of grain half way up their side. Such chalk hills are quite numerous in the interior, and form striking features in the landscapes.

We took a dip in the icy pool at the throat of the pass, a refreshing sequel to a hot and dusty day On the common by the side of the pool

we saw a worn-out horse, which had had a hoof wrenched off, and instead of being killed to put it out of misery, was turned out to graze and die when Allah wills. The barometer at Yebrûd at 5 p.m. was 25·8, height, 4,600 feet.

We declined several hospitable invitations to stay to dinner, and to put up for the night in Yebrûd, and pressed on toward en-Nebk, an hour away, from which place we hoped to telegraph our friends in Lebanon. We found the telegraph officer away at his dinner. We went to his house, and he politely received the despatch and money to pay for its transmission. It is, perhaps, needless to say that it never arrived. There being no one to hold him to account, he, of course, pocketed the money, and never troubled himself any more about the message.

As we turned to leave a soldier came up to say that the governor would like to see us at the seraglio. We fancied that he wanted some backshîsh, or to put some impediment in our way that would bring us late to camp, so we spurred our jaded horses into a gallop, and were soon beyond the reach of pursuit on our way to Deir-'Aṭîyeh, which we reached at a quarter before eight o'clock.

As one of our muleteers had deserted us at Deir-el-'Ashaïr, we needed to find a man to accompany us on the desert to help in the varied services there required. After some difficulty we secured a man named Mûsa, who was to go on foot through the desert, and as far as we might choose thereafter. A more willing and faithful servant than he proved for the next sixteen days could not be found.

Friday, July 18.—Barometer at Deir-'Aṭîyeh at 6½ a.m., 26·3; height, 4,000 feet. At our former visit we also made it 4,000 feet. It was nearly 8 o'clock before we were in the saddle, and fairly began our desert trip. The flora between 'Aṭîyeh and el-Mahîn had almost entirely changed since the spring. *Delphinium oliganthum, Boiss., Mathiola Damascena, Boiss.* (in fruit; we had met it in flower in the same place in April), *Reaumuria Billardieri, Jaub. et Sp., Fagonia Olivieri, D.C., Achillæa fragrantissima, Forsk., Kochia latifolia, Fresen., Chenolea Arabica, Boiss., Salsola crassa, M.B., S. glauca, M.B., S. rigida, Pall., var. tenuifolia, Boiss.*

We arrived at el-Mahîn at 2¾ p.m. Barometer, 27·3; height, 2,950 feet. At our former visit we did not take its height. We only stopped to water our horses at the copious fountain, and then pressed on to Qaryetein. An hour before reaching it we came upon a pool filled with a reeking mass of dead locusts, a presage of what we were to encounter in the desert. The scanty vegetation of the plain of Qaryetein was also eaten by locusts. We obtained poor specimens of *Zygophyllum fabago, L.* At 6½ p.m. we reached Qaryetein, and again took up our quarters at the hospitable home of the teacher Shahîn. Barometer at 7 p.m., 27·8; height, 2,450 feet. The following day it was 27·9; height, 2,385 feet; mean, 2,367 feet. At our former visit we had made it 2,630 feet.

Qaryetein, Saturday, July 19.—The morning was spent in examining and labelling the collections of the past two weeks, and arranging for the

desert journey. We learned to our great disappointment that the locusts had filled up the pool at 'Ain-el-Wu'ûl, so that it would be impossible to explore as we had intended the mountains of that range, unless we could take with us a supply of water for three days, no easy thing with such a train as ours. We finally managed to explore the mountain due east from Qaryetein on the following Monday, and then to proceed on Tuesday to el-Jebâh, where the water is potable all the year round, and was undefiled by locusts. From el-Jebâh, by taking a camel-load of water, we could get through to 'Ain-el-Beida in one day, and thence to Palmyra in six hours.

On Saturday afternoon we went out to Mar Liân. In the gardens around it we found *Trifolium fragiferum, L., Convolvulus pilosellaefolius, Desr.* (a plant of the Lower Euphrates Valley, but found by myself in the Jordan Valley near the Dead Sea), *Zygophyllum fabago, L., Suæda sp. Centaurea Postii, Boiss., Atriplex Tataricum, L., var. cirgatum, Boiss., Prosopis Stephaniana, Willd.* On the banks of the ditch outside the gardens *Gypsophila hygrophila, Post* (a new species), and *Juncus pyramidatus, Loh.*

In the water of the ditch we found a species of fish, kindly named for me by Professor Lortet, of Lyons, as Cyprinodon dispar, Rüppel. We found the same species in the water of Ras-el-'Ain.

Qaryetein, Sunday, July 20.—I preached in the morning to a small audience on the temptations of Christ. The day was a welcome and needed rest after our severe fatigues and exposure to the midsummer sun.

Monday, July 21.—We started in the morning with Mûsa to take care of our horses, and an attendant mounted on a donkey to take some water-skins, and our former guard Khâlid as a guide. We first passed Ras-el-'Ain, where we filled our water-skins, and then struck south for an isolated range somewhat lower than the Jebel-el-Bâridi. On our way through the rolling plain we collected *Reaumuria Billardieri, Jaub. et Sp., Glaucium Arabicum, Fres., Ajuga chia Poir., Suæda fruticosa, L., Argyrolobium crotalarioides, Jaub. et Sp., Bungea trifida, Vahl.*

At 2 p.m. we reached the top. Barometer, 25·8; height, 4,600 feet. We collected on the mountain and at its base *Alcea rufescens, Boiss., Dianthus deserti, Post* (a new species, of which specimens were also found by the author in the Judean wilderness), *Astragalus trifoliolatus, Boiss., Postia lanuginosa D.C., Verbascum Karyeteini, Post* (a new species), *Scrophularia variegata, M.B.* (new for the desert), *Teucrium pruinosum, Boiss.* (new for the desert), *Eremostachys macrophylla, Month. et Auch., Allium sp., Stipa sp., Rhamnus Palæstina, Boiss.* (the only shrub on this range).

The view from the summit was grand. The boundless rolling plain to the south appeared of a pale green, owing to the scanty salsolaceous vegetation, which even at that season furnishes some pasturage to camels. Range after range of hills, similar to the one on which we were, stretched away in échelon to the south-west towards Damascus, while far away toward the west towered the broken profile of northern Anti-Lebanon.

Two hours to the south of us was a solitary encampment of Bedawîn. To the north was the plain over which we had just come, interspersed with low chalk hills, and behind them the green oasis of Qaryetein, back of which was the range of Bil'âs, trending northward toward Aleppo. To the east was the range of Jebel-el-Bâridi, and beyond it Jebel-'Ain-el-Wu'ûl, and far away to the north-east el-Jebel-el-Abiad. Between the latter two ranges was the broad plain through which passes the high road between Qaryetein and Palmyra.

On all the adjacent ranges of hills we could see the dark, olive-green spots which denoted the presence of bushes of *Rhamnus Palastina*, *Boiss.*, the only shrub of these woodless hills.

A stiff wind was blowing all the afternoon, making it difficult at times to keep our horses on their course. When we had taken in as much as our time allowed of the strange, barren landscape, we turned our faces toward Qaryetein, which we reached late in the afternoon, laden with a rich booty of new and rare species. Fayyâd Agha called to see us in the evening.

Qaryetein, Tuesday, July 22.—We spent the early morning in final preparations for our desert journey, and in a last call on the Agha, who gave us his warmest wishes for our pleasure trip. We left at 10½ a.m. The barometer was at 27·9.

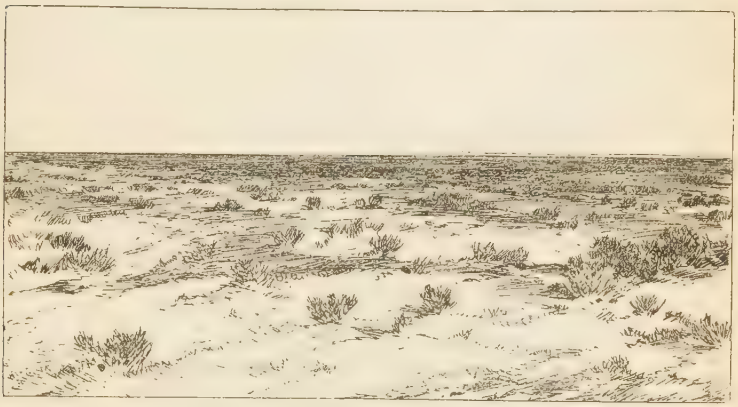
At 3 p.m. we arrived at *el-Ghundhur*, at which place we had parted from our guards three months before. Barometer, 27·7 ; height, 2,450 feet. Half an hour up the hill brought us to the hot-air bath of *Abu Rabah*. On the way we passed specimens of *Ephedra alte*, *C. A. M.*, in fruit, the stalks being badly eaten by camels. There is an extensive ruin of a khan around the site of the bath. One vaulted hall is still standing. There must have been accommodation for hundreds of guests in the palmy days of the khan. The bath itself is a small vaulted chamber, in the partially paved floor of which is a blowhole, about 10 inches in diameter. I hung my thermometer in the hole, and after leaving it for several minutes it read 140 F. The air is somewhat charged with steam, and very slightly with sulphur. We heated our afternoon tea by hanging the bottle in the hole. We had no means of measuring the depth of the vent. The force of the blast is considerable. The barometer outside the blowhole at 4 p.m. read 27·55 ; height, 2,600 feet.

We turned our horses' heads again to the southward, and at 6 p.m. reached *el-Jebâh*. The barometer stood at 28 ; height, 2,150 feet. The same three old men were still there, not now watching the growing grain, but threshing out their small harvest. The water flowed still, nearly as in the spring.

The camel which we had brought to carry our water took fright at Mr. Day's pith hat, and started off at a full run into the desert. In vain the owner called him and ran after him. Two of the guardians joined in the chase, but the camel only galloped the faster. Seeing that he was likely to be lost entirely we saddled our three horses and set out in pursuit. After an exciting chase of half-an-hour we succeeded in turning

him toward the tent, when, seeing no further hope of escape, he quietly resigned himself to his keeper, and suffered himself to be led back to camp.

Wednesday, July 23.—As we had a long day before us we were in the saddle at a quarter to five in the morning. We rode along the foot of the hills which form the Bil'âs range. During the morning we collected *Eluropus lævis, Trin., Ferula Blanchei, Boiss.* (with ripe fruits), *Bromus Danthoniæ, Trin., Salsola rigida, Pall., var. tenuifolia, Boiss., Salsola glauca, M.B., S. crassa, M.B., S. canescens, Moq., Chenolea Arabica, Boiss., Phelipea ramosa, Cass., Hyoscyamus albus, L., var. desertorum, Asch., Gymnarrhena micrantha, Desf.* Dry stalks of *Artemisia Herba-alba. L.*, and *Poa bulbosa, L.*, are everywhere. The accompanying cut gives the aspect of the desert plain, with its sparse salsolaceous vegetation.



Toward noon we passed *Qasr-el-Kheir*, about two hours to our right. A large caravan of traders was moving parallel to us all the morning on the regular road between Qaryetein and Palmyra. We afterwards met them at el-Beiḍa. For several hours after noon we were passing a large caravan of friendly Arabs, about an hour to our left, on their way from el-Jebel-el-Abiaḍ to el-Jebâh to celebrate the feast of the sacrifice (*ed-ḍohîyeh*) by the water. It was a large tribe, with all its flocks and belongings.

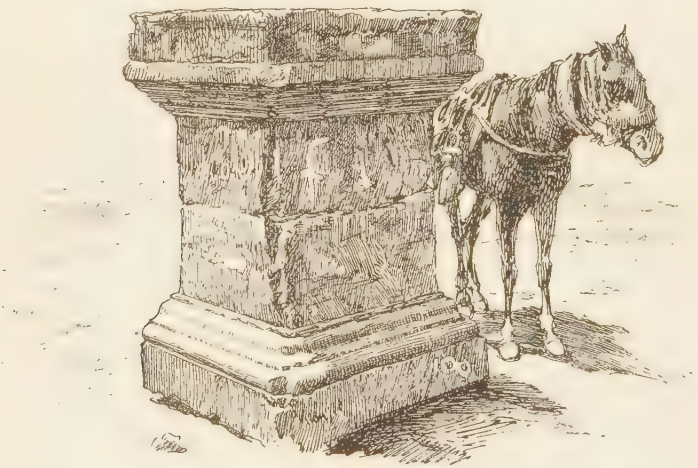
In the afternoon, as we neared el-Beiḍa, we passed numerous heaps of *Ushnân*, the soda ash obtained by burning the *Arthrocnemum glaucum, Del.*, which is one of the most abundant of the plants of this part of the desert. Two hours before reaching el-Beiḍa we passed a ruined khan, an hour or more to our left.

We reached el-Beiḍa at a quarter before seven, after fourteen hours in the saddle. The day had been very hot, and only late in the afternoon were there a few clouds to mitigate the intense power of the sun's rays. The horses were almost frantic from the flies, which buzzed about them

in swarms. The barometer at el-Beiḍa stood at 28·54 on our arrival; height, 1,600 feet.

The water at el-Beiḍa was slightly tainted with locusts, but not so much so as to be unfit for use. We found it inferior, however, to that of el-Jebâh. We offered the soldiers the same sum for the use of their bucket that we had paid before; they declined to let us use it at any price. Afterwards, when we produced one of our own, and proceeded to draw water, they relented and asked for a backshîsh. We gave them a small one by way of heaping coals of fire upon their heads.

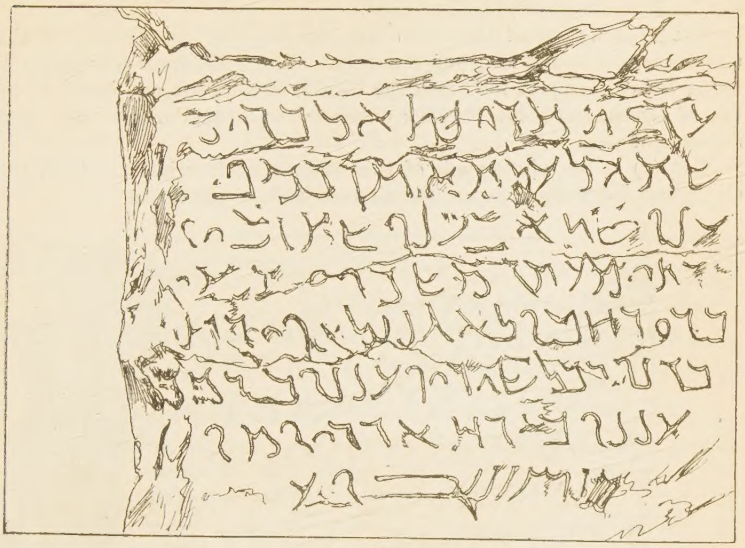
Thursday, July 24.—At a very early hour in the morning a marauding party of fifteen horsemen and twenty-five cameleers passed a short distance to the west of the station, and entered the range of mountains to the south of the plain. We were under some apprehensions lest they might waylay us and rob us half-way between el-Beiḍa and Palmyra. We saw no more of them, however. We afterwards learned that they were a party which had gone on a *ghaza* and failed, losing some of their number and carrying away no spoil.



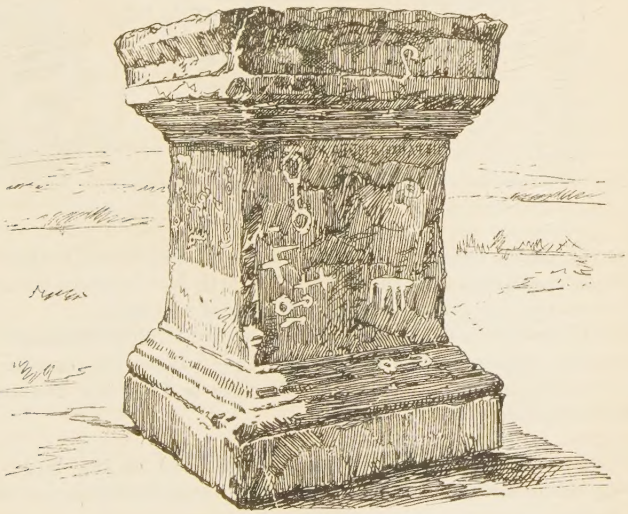
Cut (1).

We left el-Beiḍa at five minutes before eight in the morning. About half-an-hour away we came upon a sandy patch, with clumps of *Tamarix tetragyna, Ehr.*, and *Crozophora verbascifolia, Willd., var. elata, Post* (new for the desert). Just beyond this patch we found *Delphinium flavum, D. C.* (new for this region), *Acantholepis Orientalis, Less.*, and *Halimocnemis pilosa, Moq.* As we rose over a swell in the plain we saw camels with riders looming up before us, and at first thought of the *ghaza*, but we soon found that they belonged to the regular caravan between Palmyra and Qaryetein, and passed them with exchange of salaams.

Three hours from el-Beida we came upon a dry salt marsh filled with clumps of *Tamarix tetragyna, Ehr.*, and *Lycium Barbarum, L.*, with abundance



Cut (2).



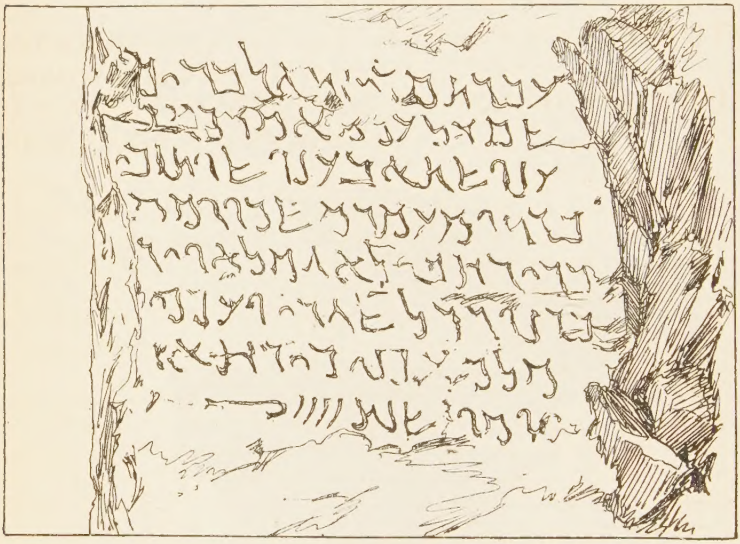
Cut (3).

of *Halocharis sulphurea, Bge.*, in the intervals. In the centre of this marsh were the three altar-like structures, or bases of columns, alluded

to in the narrative of our former journey. The two perfect ones are about 6 feet in height. No remains of the fragmentary one are to be seen in the immediate neighbourhood.

Cut (1) is a view of the north and east faces of the westerly of the two altars, the one by which is the horse. The Palmyrene inscription is to the *left* of the north face, near the bottom of the shaft, and above it one line of Greek, and below it two, as appears in Prof. Porter's copy on a subsequent page.

Cut (2) is the photograph of this Palmyrene inscription. Both the Greek and the Palmyrene are the same on both of the altars.



Cut (4).

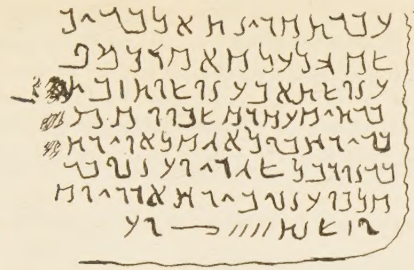
Cut (3) shows the north and east faces of the easterly altar. The Palmyrene inscription is to the *left* of the north face, between the lines of Greek as on the other altar, but near the top of the shaft.

Cut (4) shows this inscription. As there are trifling differences in the clearness of different parts of the two inscriptions, the one serves to help in deciphering the other. The following is Professor Porter's note on the inscriptions :—

[Bilingual inscription (Greek and Palmyrene) on the large square pillars in the desert about 2½ or 3 hours to the *west of Palmyra on the road to El Beiḍha.*

The Greek is in three lines, one in large letters across the top, and two in smaller letters beneath the Palmyrene, which is on the left side of the pillar in each case, thus :—

ΔΙΙΥΨΙCΤΩΚΑΙΕΠΗΚΟΩΗΠΟΛΙCΕΥΧΗΝ



ΕΤΟΥCΕ̄ΚῩΔΥCΤΡΟῩᾹΚΕΠΙΑΡΓΥΡΤΑΜΙΩΝΖΕΒΕΙ
[ΔΟΥΘΑΙΜΟΑΜΕΔΟΥΚΑΙΜΟ
ΚΙΜΟΥΙΑΡΙΒΩΛΕΟΥCΚΑΙΙΑΡΑΙΟΥΝΟΥΡΒΗΛΟΥΚΑΙ
[ΑΝΑΝΙΔΟCΜΑΛ(Ι)ΚΟΥ

Both Greek and Palmyrene are to be found in De Vogüé, "Inscriptions Sémitiques de Syrie Centrale" (No. 124, *a*, *b*). He mentions *three* pillars or altars as having the same inscription. We found only two. His reading of the Palmyrene differs from the above only in one word, the last in the second line. He reads (ר) בסס, *tributum*, *census*. The reading above as taken from a photograph is בספ, *silver*, which gives a better meaning and more nearly corresponds to the Greek *αργυρταμιῶν*, *treasurers*, or overseers or masters of the finances.

The proper names do not correspond in the two languages, the Palmyrene in four cases adding a second name to that of the father as given in the Greek. De Vogüé translates in each case as though the word for son (בר) stood between, which may be correct; but may we not suppose that we have here the use of a surname or family name which may have been originally the name of an individual ancestor? The two copies of the Palmyrene differ in the orthography of the name corresponding to *ανανιδος* in the Greek. In one it is ענני, and in the other ענבי. This is noticed in De Vogüé. The Palmyrene in Arabic characters stands thus: —

In Hebrew thus: —

عبدت مدينتا لبريك	עבדת מדינתא לבריך
سمه لعلما من كصف	שמה לעלמא מן בספ
عنوسنا بعنوسوت زبد(دا)	ענושתא בענושות זבי(דא)
برثيمعمد مسكو و مة(يمو)	בר תימעמד משכו ומק(ימו)
بريرحبول اغملا ويرح(ي)	בר ירחבול אגמלא וירחי
بر نوربل شغري وعننو بر	בר נורבל שגרי וענני בר
ملكو عننو بيرح ادر يوم	מלכו ענני בירח אדר יומ
٢١ سنة ٤٢٥	21 שנת 425

We may translate as follows :—

The city (Palmyra) has erected (or dedicated) (this) to him whose name is for ever blessed, from the money of the Treasury under the administration of the treasurers Zebeida, son of Thaimo-'Amed Maskû, and Moqîmû, son of Yarhibûl Agmalâ, and Yarhî, son of Nûrbel Sagrî, and 'Ananî (or 'Ananû), son of Malkû Anani ; in the month of March, the 21st day, in the year 425 (114 A.D.).]

(*To be continued in October "Quarterly Statement."*)